Contents

Chapter 1

Quick Installation

Several easy installation steps will be described in this chapter to help the experienced users with quick installation. If you are a beginner, or need to know more about this product, please refer to Hardware Setup.

1.1   Layout
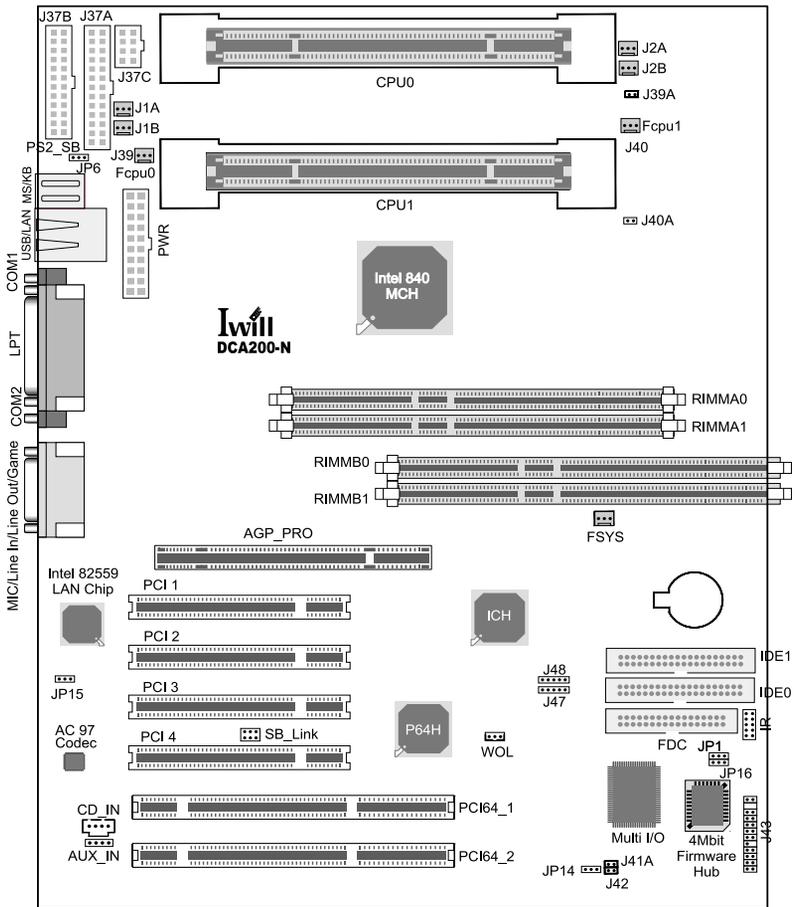
1.2 CPU setting

This motherboard is designed for Intel® Pentium® III Xeon™ processors through a SC330 connector (330-pin slot connector) .

CPU Model	L2	Vcore & Package	"CPU Speed" in BIOS
Pentium II Xeon 400	512K CSRAM	2.0V, SECC	400Mhz(100x4)
Pentium II Xeon 400	1M CSRAM	2.0V, SECC	400Mhz(100x4)
Pentium II Xeon 450	512K CSRAM	2.0V, SECC	450Mhz(100x4.5)
Pentium II Xeon 450	1M CSRAM	2.0V, SECC	450Mhz(100x4.5)
Pentium II Xeon 450	2M CSRAM	2.0V, SECC	450Mhz(100x4.5)
Pentium II Xeon 500	512K CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium II Xeon 500	1M CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium II Xeon 500	2M CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium II Xeon 550	512K CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium II Xeon 550	1M CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium II Xeon 550	2M CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 500	512K CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium III Xeon 500	1M CSRAM	2.0V, SECC	550Mhz(100x5)
Pentium III Xeon 500	2M CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium III Xeon 550	512K CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 550	1M CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 550	2M CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 600	256K-on-die	2.8V, SECC	600Mhz(133x4.5)
Pentium III Xeon 600	256K-on-die	5V, SECC	600Mhz(133x4.5)
Pentium III Xeon 600	256K-on-die	12V, SECC	600Mhz(133x4.5)
Pentium III Xeon 667	256K-on-die	2.8V, SECC	667Mhz(133x5)
Pentium III Xeon 667	256K-on-die	5V, SECC	667Mhz(133x5)
Pentium III Xeon 667	256K-on-die	12V, SECC	600Mhz(133x5)
Pentium III Xeon 733	256K-on-die	2.8V, SECC	733Mhz(133x5.5)
Pentium III Xeon 733	256K-on-die	5V, SECC	733Mhz(133x5.5)
Pentium III Xeon 733	256K-on-die	12V, SECC	733Mhz(133x5.5)

1.3   Jumpers

JP1 (CMOS) Clear CMOS jumper

CMOS(JP1)

1 2 3   1 2 3
Normal(Default)   Clear CMOS
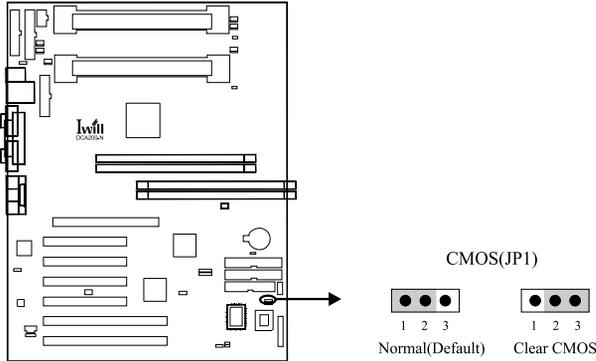
JP6 (PS2_SB) PS/2 power standby jumper

This jumper is used to select the power well of PS/2 ports. The feature "power on by keyboard / mouse" can be enabled or disabled by this jumper.

PS2 SB(JP6)

1 2 3   1 2 3
Enabled   Disabled
(Default)
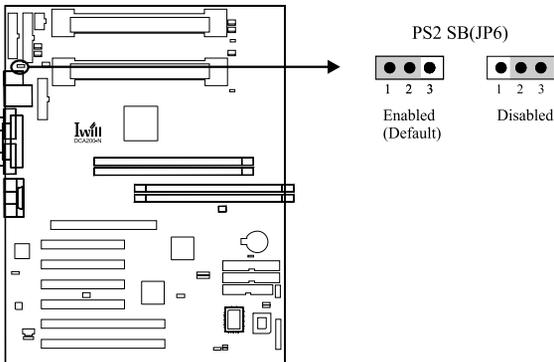
JP14 (S_spkr) Speaker source select jumper

This jumper is used to select Speaker source jumper.

S_Spkr(JP14)

1 2 3   1 2 3

AC97 Speaker Output   CASE Speaker Output
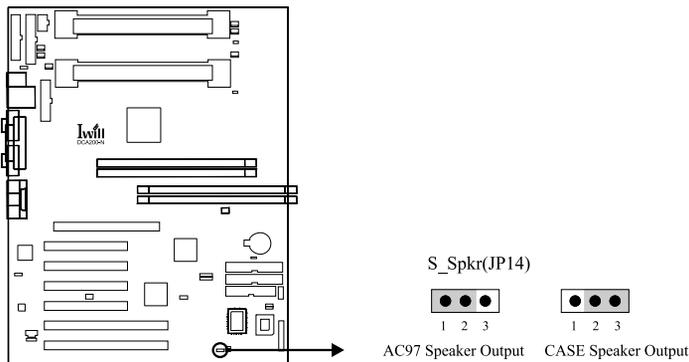
JP15 (LAN) LAN Enabled / Disabled jumper (DCA200-N only)

This jumper is used to enable / disable the onboard LAN chip.

LAN (JP15)

1 2 3   1 2 3

Enabled (Default)   Disabled
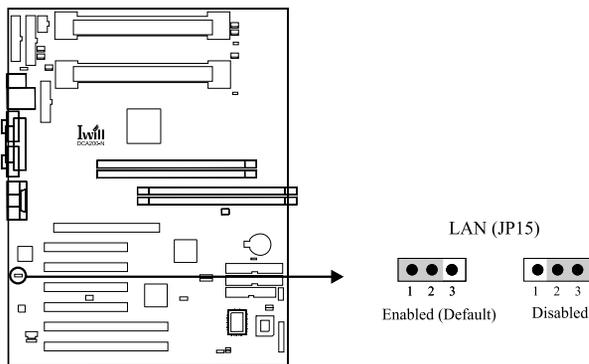
JP16 (FLASH) FLASH protect jumper

This jumper is used to select the Flash ROM protected mode.

Do not leave JP16 without any cap.

FLASH (JP16)

1 2 3   1 2 3

Controlled by   Protected by H/W
BIOS(Default)
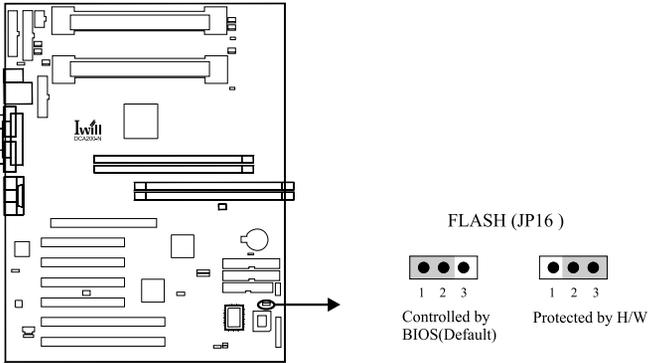
1.4   Expansion Slots / Sockets

J1—J2 (CPU0—CPU1) (Slot2) Processor connectors

CPU0

CPU1

Pin1
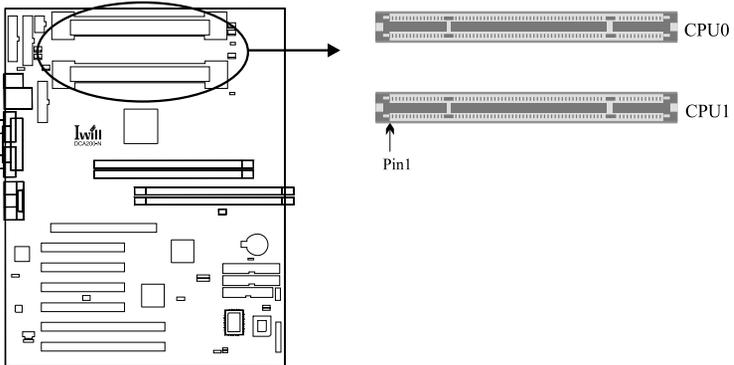
J3—J4 (RIMM_A0—RIMM_A1) 184-Pin RIMM Sockets
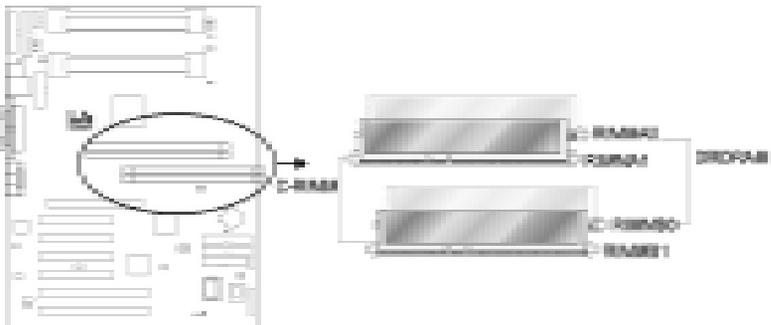
If you install two DRDRAMs and two C-RIMM, you can refer to above figure.

J5—J6 (RIMM_B0—RIMM_B1) 184-Pin RIMM Sockets

If you install four DRDRAMs, you can refer to figure.
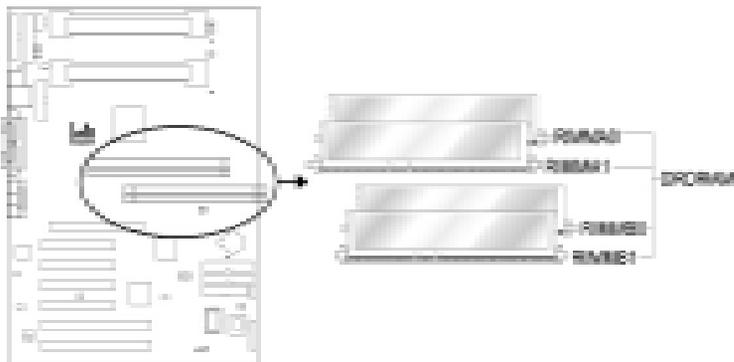
Install memory in any combination as follows:

> Due to this i840 board is designed to suuport dual channels Direct Rambus DRAM. It require to install minium two (a pair) pieces of DRDRAM (maximum fours DRDRAM) and this two pieces of DRDRAM should install in each Rambus memory module channels (Each channels have two RIMM) , refer to above figure. It is not correct to install both DRDRAM to same channel RIMM with C-RIMM populated in the other channel . This will cause no power on to this i840 board . To successfully install DRDRAM should be a pair a time and with same memory size .

J12—J15 (PCI 1—PCI 4) PCI expansion slots (32bit / 33MHz)
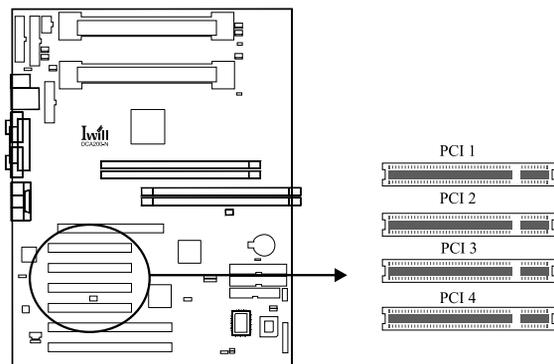
J16—J17 (PCI 64_1—PCI 64_2) PCI expansion slots (64bit / 66MHz)

PCI64_1

PCI64_2
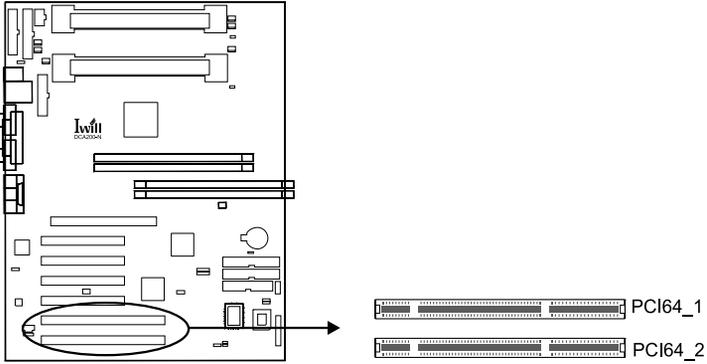
J27 (AGP PRO) 4xAGP AGP Pro Slot

AGP_PRO

Pin1
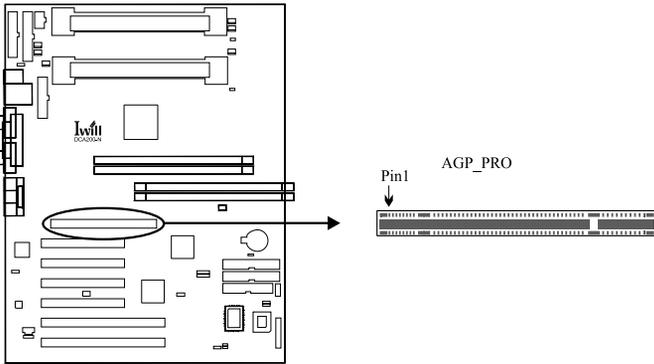
1.5   Connectors

J28 (IDE0) Primary ATA/66 IDE channels

J29 (IDE1) Secondary ATA/66 IDE channels

IDE1

IDE0

Pin1
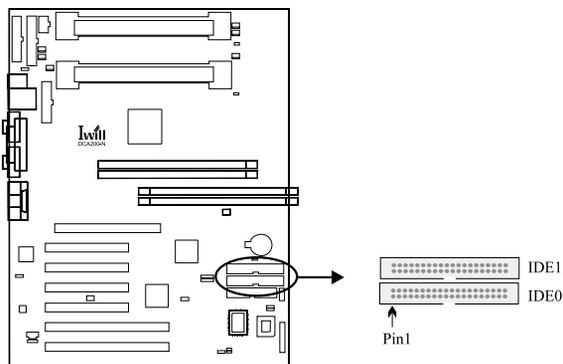
J30 (FDC) Floppy connector

FDC

Pin1
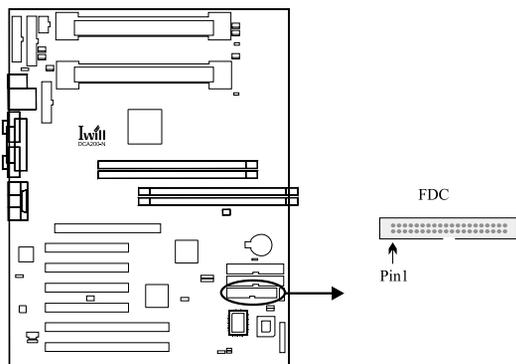
J37 ATX power connector

J37A (WTXA) WTX 24PIN power connector

J37A

Pin Assignment

12	24
1	13

	Pin	Pin	
	1:	13:	
	2:	14:	
3.3V	3:	15:	3.3V
	4:	16:	
	5:	17:	3.3V Stand by
	6:	18:	
	7:	19:	
GND	8:	20:	3.3V
	9:	21:	
	10:	22:	
	11:	23:	
5V	12:	24:	5V
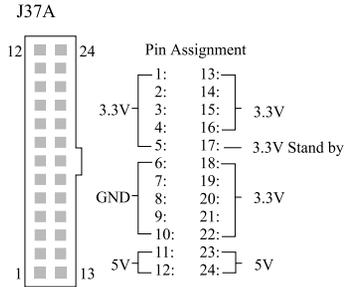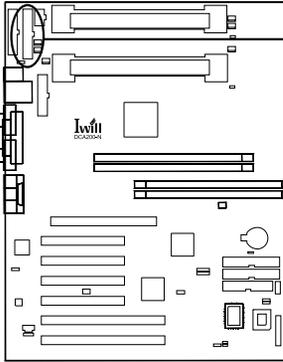
J37B (WTXB) WTX 22PIN power connector

J37B

Pin Assignment

11	22
1	12

	Pin	Pin	
	1:	12:	GND
NC	2:	13:	
	3:	14:	NC
GND	4:	15:	GND
	5:	16:	
+12V	6:	17:	+12V
-12V	7:	18:	3.3V Stand by
NC	8:	19:	NC
	9:	20:	
Power good	10:	21:	Power Supply On
NC	11:	22:	NC
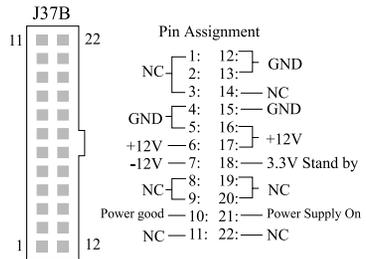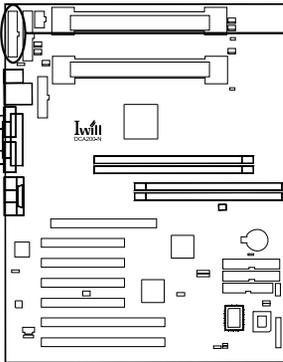
J37C (WTXC) WTX 8PIN power connector
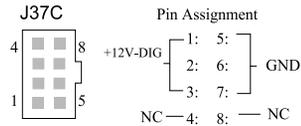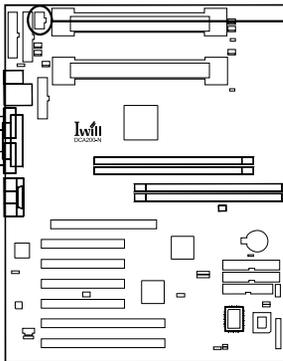
J37C

Pin Assignment

4	8
1	5

	Pin	Pin	
+12V-DIG	1:	5:	
	2:	6:	GND
	3:	7:	
NC	4:	8:	NC

J1A & J1B Fan connectors for Dual Retention Module (4cm type Fan)

J1A

Pin Assignment
1: GND
2: 12V
3: NC

1 2 3

J1B

Pin Assignment
1: GND
2: 12V
3: NC

1 2 3

J2A & J2B Fan connectors for Dual Retention Module (4cm type Fan)

J2A

Pin Assignment
1: GND
2: 12V
3: NC

1 2 3

J2B

Pin Assignment
1: GND
2: 12V
3: NC

1 2 3
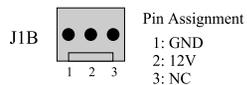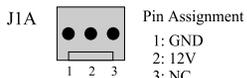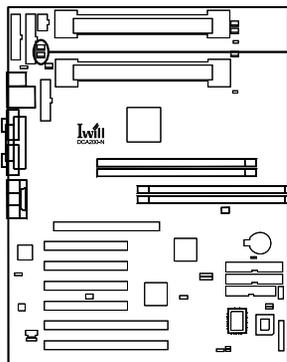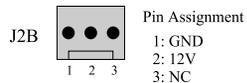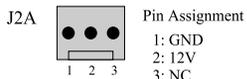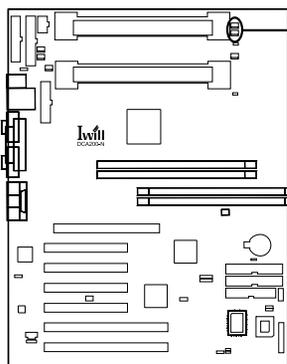
J39 (FCPU 0) & J40 (FCPU 1) & J41 (FSYS)

There are three fan connectors on this motherboard. The J39 (FCPU0) is designed to support CPU fan; the J41 (FSYS) is for system fan used and the J40 (FCPU1) is designed to support CPU fan.

Fcpu1
Pin Assignment
1:GND
2:12V
3:SENSE
1 2 3

Fcpu0
Pin Assignment
1:GND
2:12V
3:SENSE
1 2 3

Fsys
Pin Assignment
1:GND
2:12V
3:SENSE
1 2 3
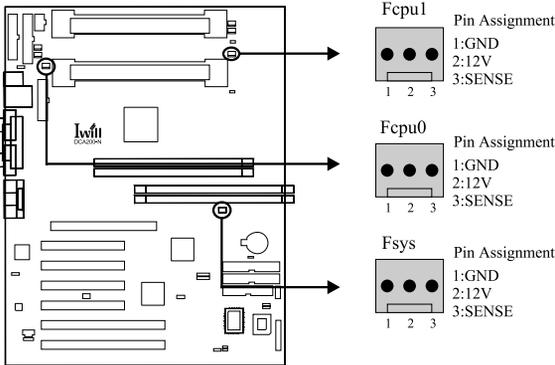
J39A (TCPU 0) & J40A (TCPU 1) & J41A (TSYS)

This motherboard has three temperature sensor headers. You can connect the temperature sensor to these headers in order to monitor and CPU the temperature.These three connectors without orientation limit.

J39A
1 2

J40A
1 2

J41A
1 2
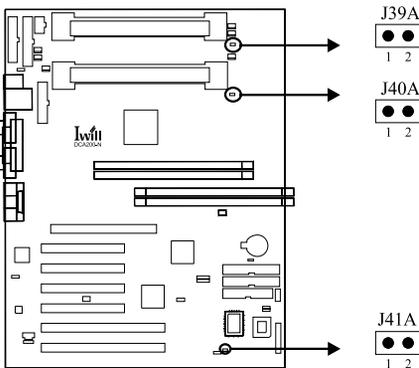
J42 Chassis Intrusion Connector (CASE)

The connector is for a chassis designed for chassis intrusion detection.
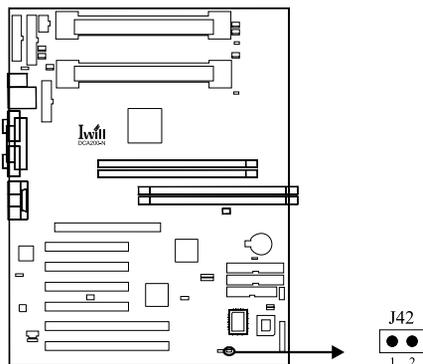
J42

1 2

J43

This connector is composed of all the headers that may be connected to the front panel of the chassis.

J43
PWR-ON

1:	13:
3: Anode	15: VCC
4: Cathode	16: NC
5:	17: GND
6:	18: KL
7: Anode	19: GND
8: Cathode	20: NC
9:	21: VCC
10:	22: GND
11: RST	23: NC
12: GND	24: SPEARK (BUZZ)

ACPI
ALED
RST
PLED
KL
SPKR
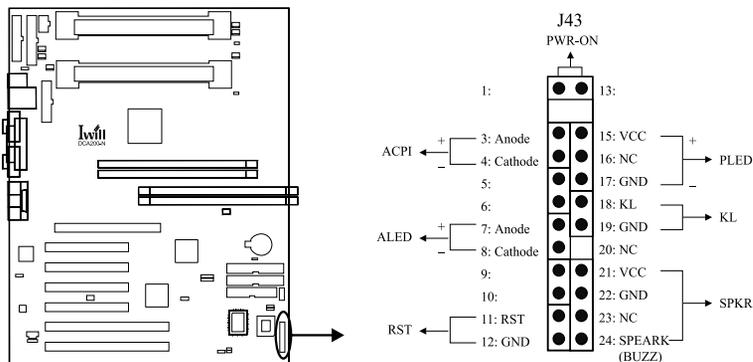
J44 (SB_LINK)

This is the SB_LINK connector. In order to enabling users to play real-mode DOS games. Connect the cable provided by PCI sound card to this connector.

SB_Link   Pin Assignment

2 4 6

1 3 5

1:GNT#A
2:GND
3:NC
4:RE0#A
5:GND
6:SERIR0
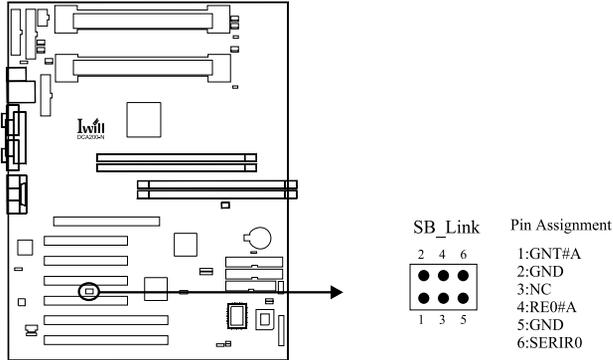
J45 (IR)

This connector is designed for the SIR/FIR/CIR devices.

IR   Pin Assignment

1   6

5   10

1:5V   6:NC
2:NC   7:CIRRX
3:IRRX   8:5VSB
4:GND   9:NC
5:IRTX   10:NC
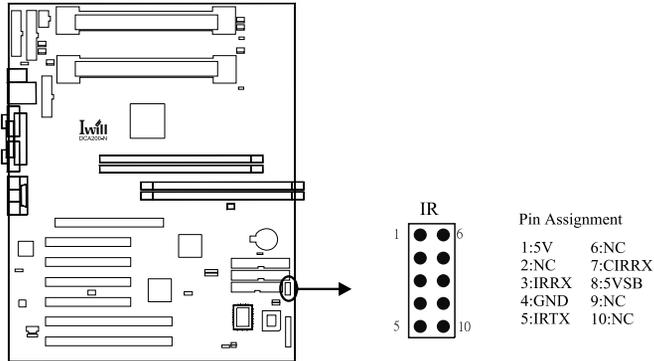
J46（WOL）

This is the Wake-on-LAN connector. In order to wake up the system through a plug-in network card, the card must provide a high active wake signal.

Wol

Pin Assignment

1   2   3

1:5VSB
2:GND
3:LAN_WAKE
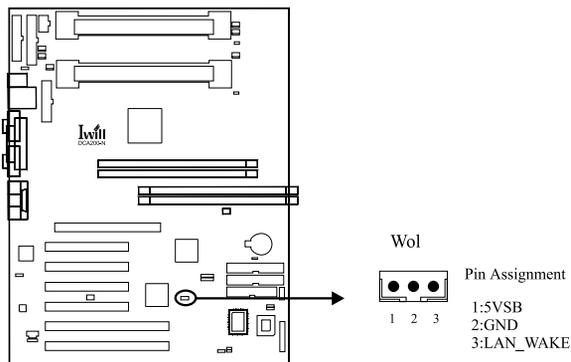
J47（WOM）

This connector can be connected to MR card or internal modem card to provide the ability of power on by modem device.

J48 (SMBUS)

This connector provides the connectivity of SMBUS utilization.

1   2   3   4

J48

J47

1   2   3   4

PS/2 Mouse6-pin Female

Universal Serial BusUSB1

Parallel Printer Port 25-pin Female

RJ45Optional

Joystick/Midi15-pin Female

PS/2 Keyboard
6-pin Female

Mic Connectors

Line in Audio

Universal Serial BusUSB2

Line Out 1/8" Stereo

Serial Port 9-pin Male COM1

Serial Port 9-pin Male COM2

The upper light indicates the status of LAN.
When light is on means LAN is connected.

The lower light indicates the status of data.
When light is on means data is transmitting.

J53 (AUX_IN) & J54 (CD_IN)

These connectors allow you to receive stereo audio input from such sound sources as a CD-COM, TV tuner or MPEG card.

J31   **External COM1 connector**

J32   **External COM2 connector**

J33   **External Parallel connector**

J35   **External PS/2 mouse & keyboard connector**

J58   **External Dual USB & RJ45 connector**

J56   **External Game / Line-in / Line-out / MIC connector**

1.6   Form Factor
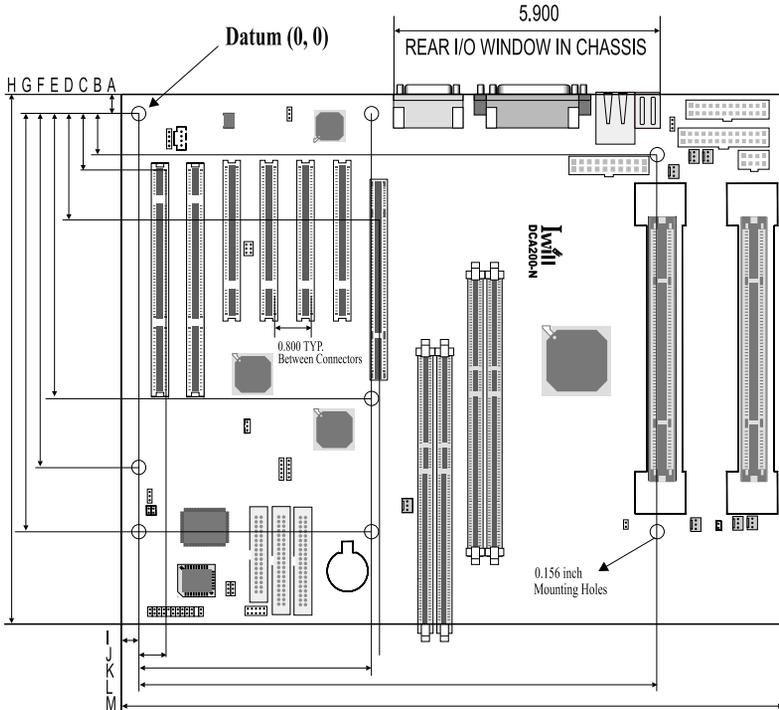

```
A: 0.400  inch      I:    0.640  inch
B: 0.890  inch      J:    0.320  inch
C: 1.230  inch      K:    4.900  inch
D: 2.240  inch      L: 11.100  inch
E: 6.100  inch      M:14.420  inch
F: 7.500  inch
G: 8.950  inch
H:11.390  inch
```

Chapter 2

Overview

Thank you for purchasing the IWILL DCA200-N motherboard. This operation manual will instruct you how to configure and install the system properly. It contains an overview about the engineering design and features of this product. Also, this manual provides useful information for later upgrades or configuration changes. Keep this for your future reference.

About This Manual
This manual will introduce to the user how this product is installed. All useful information will be described in later chapters. Keep this manual for future upgrades or system configuration changes.

Chapter 1 Quick Installation   The quick reference for experienced user
Chapter 2 Overview   An overview of this motherboard
Chapter 3 Features   Information and specifications
Chapter 4 Hardware Setup   Information for setting up the motherboard
Chapter 5 BIOS Setup   Information for setting up the system BIOS
Chapter 6 Power Installer CD   Information for the Power Installer CD

Item Checklist
You should find the following components when opening the box:
[√]   Iwill motherboard
[√]   This operation manual
[√]   One 40-pin/80-thread ATA/66 IDE cable with three heads
[√]   One 34-pin Floppy cable with four heads
[√]   One Iwill Power Installer CD
[√]   Bag of spare jumper caps
[√]   One Custom WTX IO shield
[√]   One CPU terminator card
[√]   Two continuity module (C-Module)

Optional
[   ]   Thermal Sensor for HDD
[   ]   Thermal Sensor for System
[   ]   Iwill SIDE-Pro66 PCI ATA/66 IDE controller
[   ]   Iwill SIDE-2930C PCI Fast SCSI controller
[   ]   Iwill SIDE-2930CB PCI Fast SCSI controller
[   ]   Iwill SIDE-2936UW PCI Ultra Wide SCSI controller
[   ]   Iwill SIDE-2935LVD PCI Ultra2 SCSI controller
[   ]   Iwill SIDE-DU280 PCI Dual channel Ultra2 SCSI controller
[   ]   Iwill SIDE-DU3160 PCI Dual channel Ultra3 SCSI controller

Introduction

The DCA200-N series motherboard is the most flexible platform in today's market based on the newest Intel® i840 chipset. A major advancement in Intel® i840 chipset technology, together with the latest Intel® Pentium® III or Intel® Pentium® III Xeon™ processors, provides new levels of performance, scalability, and end user productivity. The Intel® i840 provides graphics support for AGP 2x/4x, dual RDRAM memory channels, and multiple PCI segments for high performance I/O. Combining high-powered graphics delivered by AGP 4x and the AGP Pro slot specification with the on board audio CODEC, and the on board LAN chip results in a comprehensive, compatible platform that allows purpose-built workstation and server solutions to extend far beyond standard desktop configuration.

This motherboard supports both the current Xeon™ processors (Tanner™ and Cascades™) and the next genernation of Xeon™ processors (Itanium™) without any headache. This motherboard can support the processors that packed as a SECC type. In other words, no matter what kind of processors you have in SECC , the DCA200 motherboard always provides you an adequate solution.

There are four RIMM sockets on the motherboard , which provide you the most flexibility of RDRAM usage. That is to say, the motherboard supports for dual Direct RAMBUS Channels operating in lockstep and supports up to 64 Direct RAMBUS devices.

The original investment can be guaranteed by six bus-master PCI slots design, including four 32bit/33MHz Bus Master PCI slots and two 64bit/66MHz Bus Master PCI slots. The PC99 compliant colorful connectors and the easy jumper setting provide the user more convenience. Besides that, the robust feature, well-prepared documents and the powerful software CD support make this motherboard the best choice of the value segment.

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Iwill and Iwill logo are trademarks of Iwill Corp.
All other product names are trademarks and registered trademarks of their respective owners.

Warning

Most of the features of this product have passed strict verification tests, and are subject to change at any time without prior notice. If any malfunction occurs due to the future technical changes made by the respective component manufacturers, Iwill assumes no responsibility or liability for it.

Notice

Information furnished in this manual is believed to be accurate and reliable. However, Iwill Corporation assumes no responsibility for its use, nor for any infringements of patents or other rights of third parties which may result from its use. Iwill Corporation reserves the right to change product specifications at any time without notice. Applications described in this document for any of these products are for illustrative purposes only. Iwill Corporation makes no representation nor warranty that such applications are suitable for the specified use without

further testing or modification. Iwill Corporation assumes no responsibility for any errors that may appear in this document.

YEAR 2000 issue

All motherboard currently shipped from IWILL contain BIOS capable of handling the year 2000 data correctly.

The IBM compatible PC utilizes a Motorola MC146818 compatible Real Time Clock (RTC) chip to maintain the date and time. Unfortunately, the "century" is not manipulated by the RTC. It uses 8-bits of information to report the year, and can only hold the last two digits of a year in packed BCD format. For example, 1997 is reported solely as 97. Since the RTC also contains non-volatile memory, IBM has specified a location in the memory to hold "century" information. By combining the century data with the year data, software can obtain a full 4-digit year. When the Year 2000 arrives, the RTC reports the year as '00' and the "century" in RTC memory will contain '19.' Combining the full 4-digit year yields 1900, not 2000. Any application which compare dates, or uses relative dates to perform functions will see incorrect dates.

All motherboards contain BIOS, which is one of the key ingredients to check for systems designed to handle the year 2000. **All motherboards currently shipped from IWILL contain BIOS capable of handling the year 2000 date correctly.**

Be aware that the BIOS capability alone does not ensure that the system will handle the transition correctly. Other system components such as the operating system and application software also need to be able to handle the year 2000 date, and recognize the date format from other sources.

EC Declaration of Conformity

We
    IWILL Corporation
    No. 10, Wu Chuan 3rd Rd.,
Hsin Chuang City, Taipei,
Taiwan, R.O.C.
Declare under sole responsibility that the
    DCA 200-N motherboard
Meets the intent of Directive 89/336/ECC for Electromagnetic Compatibility. Compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities:

EN	50081-1	Emissions:
EN	55022	Radiated, Class B
EN	55022	Conducted, Class B
EN	60555-2	Power Harmonics
EN	50082-1	Immunity:
IEC	801-2	Electrostatic Discharge
IEC	801-3	RF Radiate
IEC	801-4	Fast Transient

23

Chapter 3

Features

This Iwill DCA200 / DCA200-N motherboard are well designed for the user. Who wants the most stable plat form, best performance/price ratio and convenience.

3.1 Motherboard Components Placement
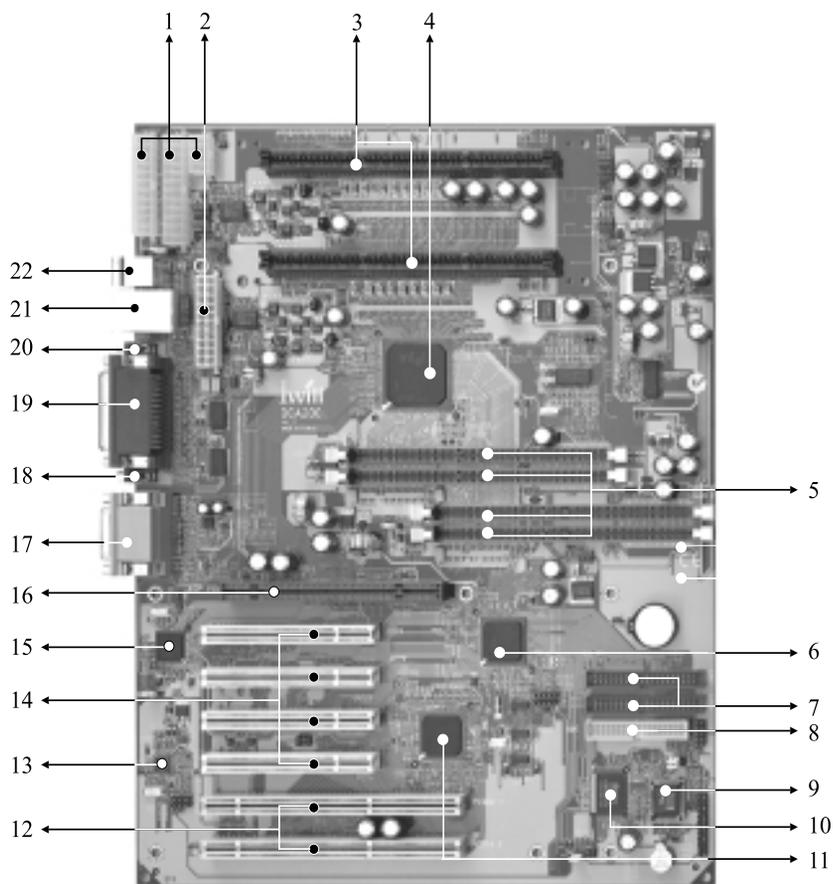
The following are part descriptions for the motherboard parts shown on the opper page.

1. **WTX Power Connector.**

2. **ATX Power Connector.**

3. **SC330 Slot2 Connector.**

4. **Intel 840 MCH.**

5. **Four RIMM Sockets.**

6. **Intel ICH Chipset.**

7. **Primary and Secondary IDE Connector.**

8. **Floppy Connector.**

9. **Intel FWH Chipset (Programmable BIOS).**

10. **Multi-I/O Chip.**

11. **Intel P64H Chipset.**

12. **64 bit/66 MHz Bus Master PCI Slot.**

13. **AC'97 V2.1 Audio CODEC.**

14. **32 bit/33 MHz Bus Master PCI Slot.**

15. **Intel 82559 Lan Chip 10/100M BaseT (DCA200-N only).**

16. **AGP Pro Slot.**

17. **Joystick, Midi Line out,Line in, Microphone In Connector.**

18. **COM2 Connector.**

19. **Parallel Connector.**

20. **COM1 Connector.**

21. **LAN and USB Connector (LAN Optional).**

22. **PS/2 Mouse, PS/2 Keyboard Connector.**

3.2 Back Panel

PS/2 Mouse(6-pin Female)

Universal Serial Bus(USB1)   Parallel (Printer) Port (25-pin Female)

RJ45(Optional)   Joystick/Midi(15-pin Female)

PS/2 Keyboard
(6-pin Female)   Mic Connectors

Universal Serial Bus(USB2)   Line in Audio

Serial Port (9-pin Male) COM1   Line Out 1/8" Stereo

Serial Port (9-pin Male) COM2
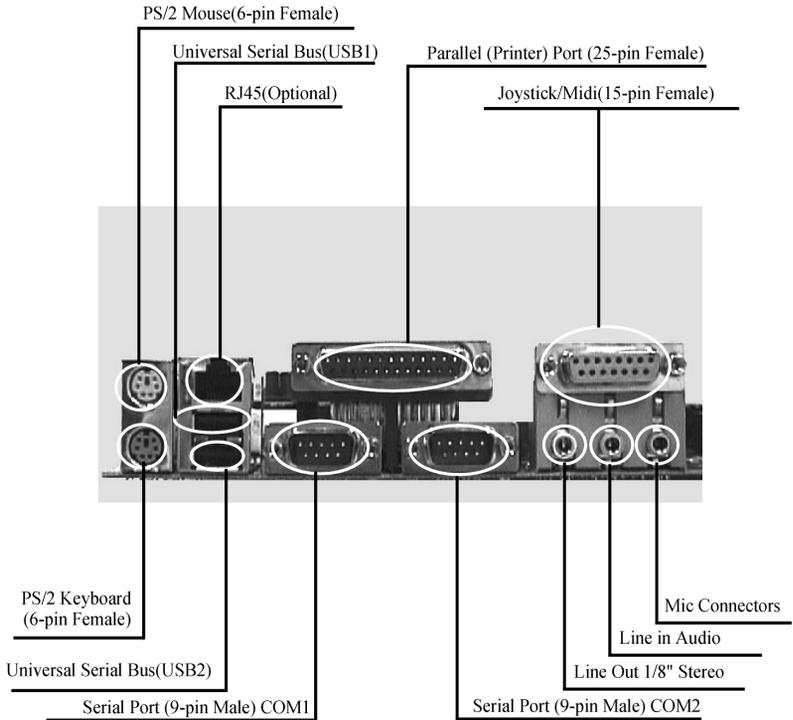
3.3   Block Diagram
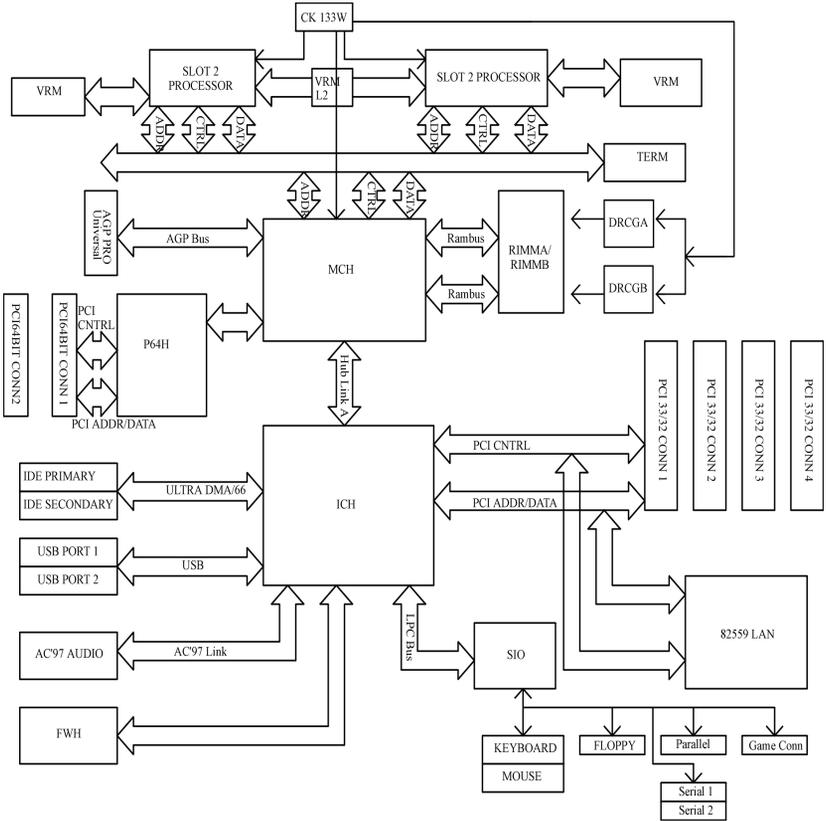
3.4   Specifications

Processor

Supports two Slot2 connectors with pre-installed URM (Universal Retention Mechanism)

Supports Intel® Pentium® II Xeon™ (Tanner) CPU from 400 MHz to 550 MHz

Supports Intel® Pentium® III (Cascades) CPU from 600 MHz to 733 MHz

Supports both H/W and S/W setting methods on CPU frequency selection

Supports CPU voltage auto detection

Supports adjustable CPU core voltage

ChipSet

Intel® i840 AGPset

Supports 100/133 MHz CPU external frequency

Supports a single AGP device (either via a connector or on the motherboard)

Supports AGP2.0 including 4x AGP data transfers and 2x/4x Fast Write protocol

Supports via dual mode buffers to allow AGP2.0 3.3V or 1.5V signaling for AGP Universal connector

Main Memory

Supports four RIMM sockets

Supports dual Direct RAMBUS Channels operating in lock-step

Supports 300/400 MHz DRDRAM (100/133 MHz FSB)

Supports 256Mb/128Mb/64Mb RDRAM devices

Supports up to 64 Direct RAMBUS devices without using MRH-Rs (Memory Repeater Hubs for RDRAM devices)

Supports 64M/128M/256M RDRAM modules

Supports memory up to 2G/1G/512M when using 256M/128M/64M technology

Supports ECC memory module (Single bit error Correction, Multiple bit error Detection)

Bus Master IDE

Supports dual channel IDE interface for up to four IDE devices

Supports Ultra DMA Bus Master with 66 MB/s burst data transfer rate

Supports PIO mode 0/1/2/3/4 and Multi-word mode 0/1/2/3/4

Supports HDD/Tape drive/CD-ROM/CD-R/CD-RW/LS120/ZIP drive

Multi-IO

Provides one floppy port to support 1.2M/1.4M/2.8M/3 Mode FDD and QIC-80 tape drive

Supports two high-speed 16550A serial ports

Supports one ECP/EPP parallel port

Supports one PS2 mouse port

Supports one PS2 keyboard port

Provides one Game/MIDI port to support two joysticks

Supports FIR and CIR infrared communication

Supports PS2 mouse and PS2 keyboard auto swapping

USB

Supports two UHCI Universal Serial Bus ports

Supports USB keyboard/mouse/joystick/telephone/modem devices

Expansion Slots

Supports four 32bit/33MHz Bus Master PCI slots

Supports two 64bit/66MHz Bus Master PCI slots

Supports one 4xAGP AGP Pro slot for AGP cards

LAN on board (DCA200-N only)

Build-in Intel i82559 Ethernet LAN controller (10Base-T/100Base-TX)

Supports IEEE 802.3u Auto-Negotiation

Supports WfM (Wired for Management)

Supports Alert-on-LAN

Supports Full-Duplex Flow Control (IEEE 802.3x)

Supports Wake-Up on Magic packet, LinkChg and Microsoft wake-up frame (PME#)

Sound on board

Build-in AC'97 Sound CODEC

Supports Creative SB-Link protocol

Management

Build-in system temperature monitor

Supports ACPI 1.0 and APM 1.2 specification

Supports extra SMBUS connector

Supports Hardware Monitoring for the voltage, temperature and fan control

Supports Chassis Intrusion feature

Supports Power on by LAN/Ext. Modem/Int. Modem/PS2 Keyboard/PS2 Mouse/RTC Alarm

Supports ACPI Blinking LED

Supports "AC-Loss Recovery" feature

Supports Manually Assign PCI IRQ

Supports Auto-reboot function when system hang

Supports Remote Power-up using Wake-on-LAN technology

Supports Suspend to RAM

Fully Year2000 Compliance

BIOS

Adopt Award BIOS

Supports On-board upgrade ability

Supports BIOS ROM Flash protection

Others

WTX Form Factor 36" x 29"

Chapter 4

Hardware Setup

4.1 Before Installation

For installation, you may need some or all of the following tools:

Medium size flat blade screwdriver

Medium size Phillips head screwdriver

A 3/16 inch nut driver or wrench

> **Users must follow these guidelines to ensure the motherboard is protected during installation.**
> **a. Make sure your computer is powered-off whenever working with inside components.**
> **b. The motherboard, like all other electronic equipment, is sensitive to static. Please take the proper precautions when handling it. If possible, ground yourself by touching a metal table or desk. keep the board in its conductive wrapping until it is configured and ready to be installed in your system.**
> **c. Keep all magnets away from both your hard and floppy disk drives, especially magnetic screwdrivers. Keep both floppy and hard disks apart if disassembled.**
> **d. Keep water and liquids away from your computer and its components.**

4.2 Jumper setting

4.2.1   JP1 Clear CMOS jumper (CMOS)

To reset the CMOS data, you should turn off the computer first, take the JP1 jumper cap off pins 1-2, place onto pins 2-3, and then place back onto pins 1-2 again. Then, turn on your computer, press <Del> key during boot up and enter the BIOS setup program to re-set your preferences.

CMOS(JP1)

Normal(Default)   Clear CMOS
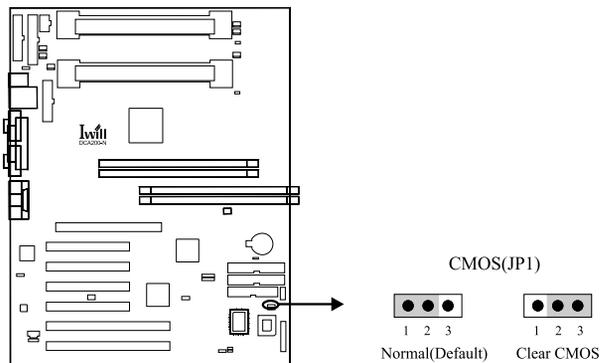
The table shows the proper setting for most of the processors in the market.
This motherboard is designed for Intel® Pentium® III Xeon™ processors through a
SC330 connector (330-pin slot connector) .

CPU Model		L2	Vcore & Package	"CPU Speed" in BIOS
Pentium II Xeon 400	512K	CSRAM	2.0V, SECC	400Mhz(100x4)
Pentium II Xeon 400	1M	CSRAM	2.0V, SECC	400Mhz(100x4)
Pentium II Xeon 450	512K	CSRAM	2.0V, SECC	450Mhz(100x4.5)
Pentium II Xeon 450	1M	CSRAM	2.0V, SECC	450Mhz(100x4.5)
Pentium II Xeon 450	2M	CSRAM	2.0V, SECC	450Mhz(100x4.5)
Pentium II Xeon 500	512K	CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium II Xeon 500	1M	CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium II Xeon 500	2M	CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium II Xeon 550	512K	CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium II Xeon 550	1M	CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium II Xeon 550	2M	CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 500	512K	CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium III Xeon 500	1M	CSRAM	2.0V, SECC	550Mhz(100x5)
Pentium III Xeon 500	2M	CSRAM	2.0V, SECC	500Mhz(100x5)
Pentium III Xeon 550	512K	CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 550	1M	CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 550	2M	CSRAM	2.0V, SECC	550Mhz(100x5.5)
Pentium III Xeon 600	256K-on-die		2.8V, SECC	600Mhz(133x4.5)
Pentium III Xeon 600	256K-on-die		5V, SECC	600Mhz(133x4.5)
Pentium III Xeon 600	256K-on-die		12V, SECC	600Mhz(133x4.5)
Pentium III Xeon 667	256K-on-die		2.8V, SECC	667Mhz(133x5)
Pentium III Xeon 667	256K-on-die		5V, SECC	667Mhz(133x5)
Pentium III Xeon 667	256K-on-die		12V, SECC	600Mhz(133x5)
Pentium III Xeon 733	256K-on-die		2.8V, SECC	733Mhz(133x5.5)
Pentium III Xeon 733	256K-on-die		5V, SECC	733Mhz(133x5.5)
Pentium III Xeon 733	256K-on-die		12V, SECC	733Mhz(133x5.5)

4.2.2   JP6 PS/2 power standby jumper (PS2_SB)

The computer can be powered on through PS/2 keyboard or PS/2 mouse. In order to support this feature, the standby power must be provided to PS/2 ports.

PS2 SB(JP6)

1 2 3   1 2 3

Enabled   Disabled
(Default)
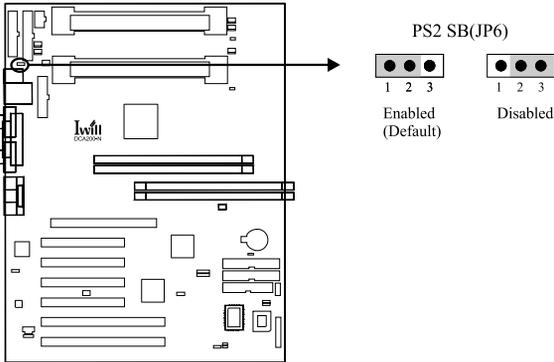
4.2.3   JP14 Speaker source select jumper (S_spkr)

This jumper is used to enable / disable the onboard audio CODEC. The onboard audio CODEC must be disabled when using an ISA/PCI audio card or a primary AMR card.

S_Spkr(JP14)

1   2   3   1   2   3

AC97 Speaker Output   CASE Speaker Output
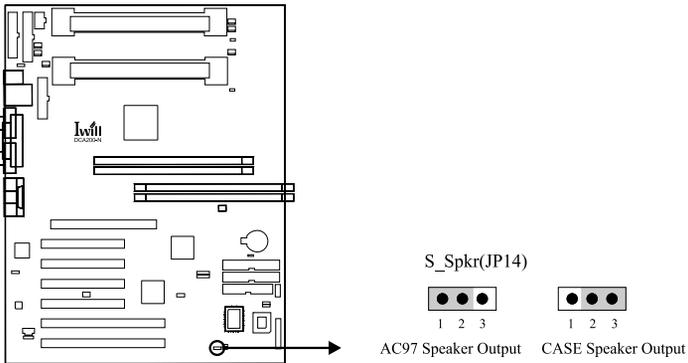
4.2.4　JP15 LAN Enabled / Disabled jumper (LAN) (DCA200-N only)

This jumper is used to enable / disable the onboard LAN chip.

LAN (JP15)

Enabled (Default)　1　2　3

Disabled　1　2　3
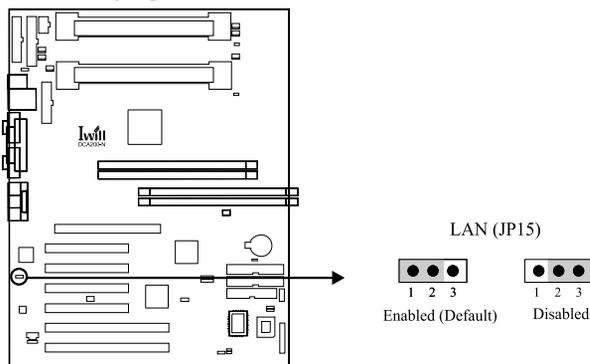
4.2.5　JP16 Flash protect jumper (FLASH)

This jumper is used to select the Flash ROM protected mode.

If JP16 is set on 2-3, the Flash ROM protection mode will be controlled by H/W.

If JP16 is set on 1-2, the Flash ROM protection mode will be controlled by BIOS.

FLASH (JP16)

Controlled by BIOS(Default)　1　2　3

Protected by H/W　1　2　3
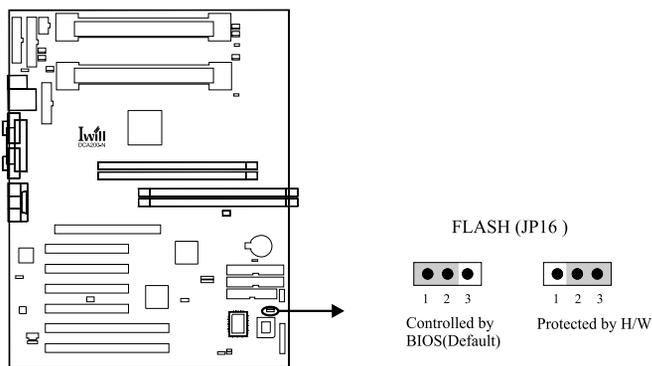
4.3 Install the Processor

This motherboard is designed for Intel® Pentium® III Xeon™ processors through a SC330 connector (330-pin slot connector) .

> **The CPU should have a fan attached to it to prevent overheating. If this is not the case, then purchase a fan before you turn on your system.**
> **Be sure that there is sufficient air circulation across the processor heatsink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could overheat and damage both the processor and the motherboard. You may install an auxiliary fan, if necessary.**

The motherboard is provides two Slot2 connectors.

CPU0

CPU1

Pin1
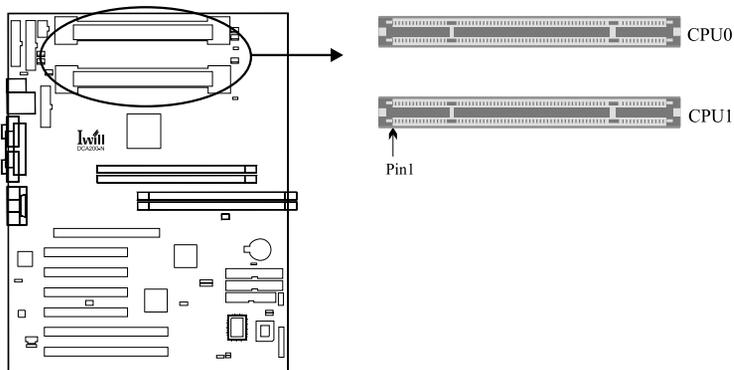
> **Don't forget to set the correct Bus Frequency and Multiple (frequency multiple setting is available only on unlocked processors) for your Socket 370 processor or else boot-up may not be possible.**

4.4   Install Memory Modules

There are four RIMM sockets on the motherboard , which provide you the most flexibility of RDRAM usage. That is to say, the motherboard supports for dual Direct RAMBUS Channels operating in lockstep and supports up to 64 Direct RAMBUS devices. These RIMM sockets only support 2.5V unbuffered RDRAM modules of 64M, 128M and 256M. The use of RAMBUS Signaling Level (RSL) technology permits 600 MHz to 800 MHz transfer rates while using conventional system and board design technologies. The chipset supports ECC memory module (Single bit error Correction, Multiple bit error Detection) and increases storage, bandwidth. The motherboard also support SPD (Serial Presence Detect) architecture to provide the best choice for performance vs. stability.
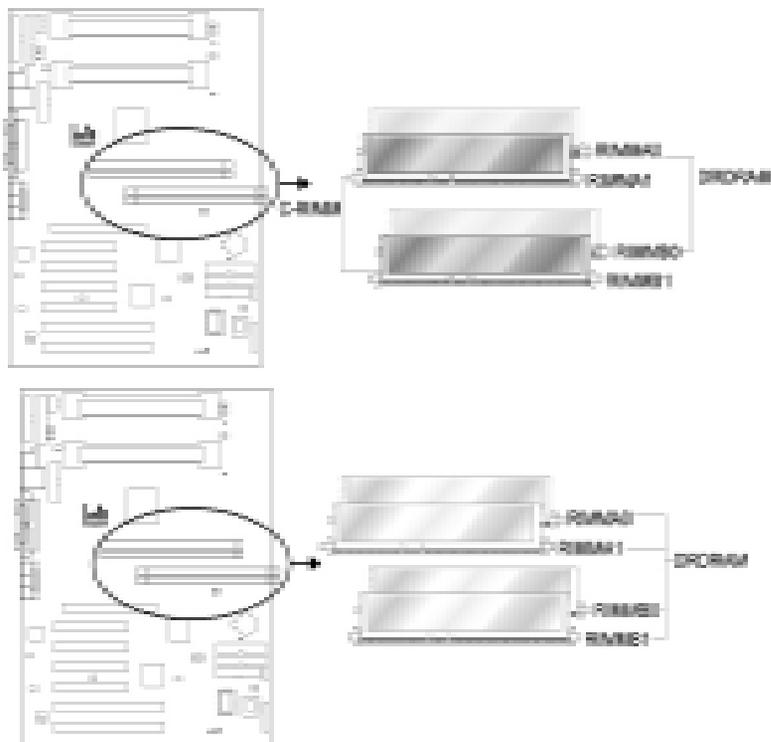
Due to this i840 board is designed to suuport dual channels Direct Rambus DRAM. It require to install minium two (a pair) pieces of DRDRAM (maximum fours DRDRAM) and this two pieces of DRDRAM should install in each Rambus memory module channels (Each channels have two RIMM) , refer to figure. It is not correct to install both DRDRAM to same channel RIMM with C-RIMM populated in the other channel . This will cause no power on to this i840 board . To successfully install DRDRAM should be a pair a time and with same memory size .

4.5   Install PCI Expansion Cards

Make sure that you have unplugged the power supply before you adding or removing expansion cards or other component. Failure to do so may cause damage to both the motherboard and expansion cards.

This motherboard provides four 32bit/33MHz and two 64bit/66MHz bus master PCI expansion slots. You can expand the features of the computer by adding some expansion cards. You can select the latest IWILL SCSI controller, such as DU280 and DU3160. Before you do that, read the documentation for your expansion card carefully and make any necessary hardware settings on it, such as jumpers or switches. Locate a free expansion slot and remove the bracket plate with screw on the slot you intend to use, carefully align the card's connectors, press it firmly and secure the card on the slot with the screw you remove above. After installing the necessary software drivers, you can enjoy the features that expansion card provided.

PCI 1

PCI 2

PCI 3

PCI 4

PCI64_1

PCI64_2
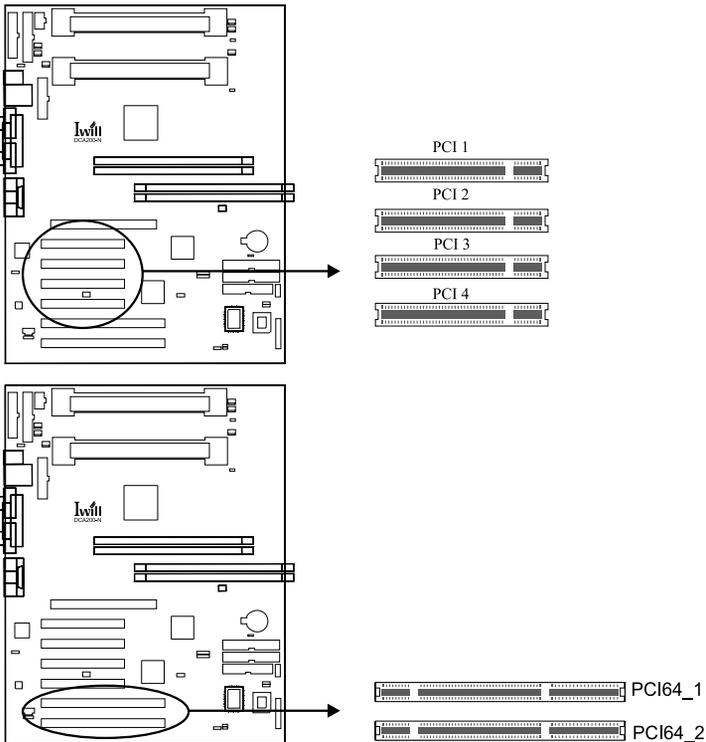
In the PCI bus design, the BIOS automatically assigns an IRQ to a PCI slot that has a card in it. To check the IRQ map of your system in Windows 98, the Control Panel icon in My Computer contains a System icon, which gives you a Device Manager tab. Double click on a specific hardware device gives you the Resource tab, which shows the IRQ and address. Make sure that no two devices use the same IRQ or your computer will experience problems. If your expansion card must be performed with a specific IRQ, you can enter BIOS setup program to assign the specific IRQ in PnP/PCI Configuration page.

4.6   Usage of the AGP Pro slot

AGP Pro, part of AGP interface specification Rev 2.0, gains support from leading workstation OEMs and graphics vendors. This motherboard provides a Accelerated Graphics Port (AGP) Pro slot, and the new specification Rev 2.0, AGP Pro, is another indication of intel focus on the workstation market. AGP Pro includes advanced capabilities such as high-performance single and multiple-image display, integrated video and 3-D functionality, and advanced realism. These features will significantly improve performance for users of simulation, mechanical CAD, financial modeling and digital content creation applications.

The new specification, AGP Pro, is expected to deliver up to four times the electrical power of today AGP interface specification. It includes an enhanced connector, improve cooling system, from factor specifications such as graphics users on both IA-32 and IA-64 platforms. The new specification will be supported in both AGP 2x and AGP 4x modes.
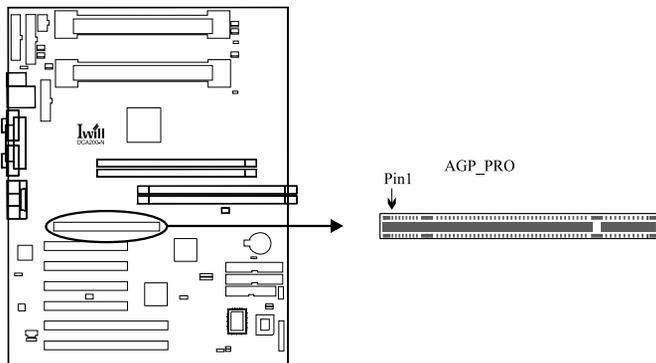
4.7 Connect Devices and Power Supply

All the connectors showed in this section are not jumpers, DO NOT PLACE JUMPER CAPS OVER THE PINS OF THEM. If you do so, you will damage the motherboard permanently.

4.7.1   Primary / Secondary IDE Connectors (IDE0 / IDE1)

This motherboard provides two independent Ultra ATA/66 IDE channels, which doubles the ATA/33 burst data transfer rate to 66 MB/s and are 100 percent backward compatible with all existing ATA / ATAPI devices. These connectors also support ZIP and LS-120 devices.

The ATA/66 requires a special 40-pin, 80-conductor cable that reduces noise bleed-over and improves signal integrity by providing 40 additional ground lines between each of the standard 40-pin ATA (IDE) signal lines and ground lines. Although a new 40-pin, 80-conductor cable is required for Ultra ATA/66, the chipset pin connector remains the same at 40.

The 40-pin, 80-conductor cables will support the Cable Detect feature. The blue (end) connector should be connected to the system board. The black (end) connector is known as the master position. The gray (middle) connector can be used for slave devices.

A legacy ATA (IDE) drive can coexist with an Ultra ATA/66 drive. However, for the Ultra ATA/66 device to attain Ultra DMA 4 mode, an Ultra ATA/66 capable cable is required.

Orient the red markings on the ribbon cable to pin1 of the connector
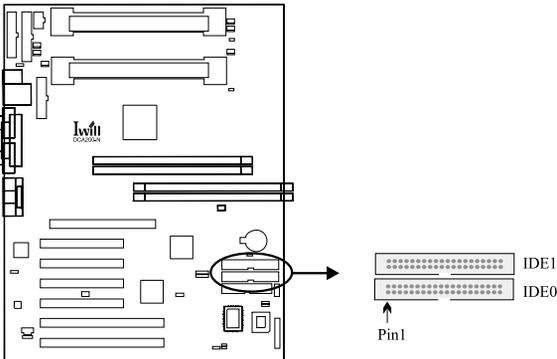
4.7.2   Floppy Connector (FDC)

This motherboard has one floppy connector to support 360K, 720K, 1.2M, 1. 44M, 2.88M, 3 Mode floppy drives and QIC-80 floppy tape drive. After connecting the single end to the board, connect the two plugs on the other end to the floppy devices.

NOTE

Orient the red markings on the ribbon cable to pin1 of the connector

FDC

Pin1

4.7.3   Back Panel

PS/2 Mouse(6-pin Female)

Universal Serial Bus(USB1)

Parallel (Printer) Port (25-pin Female)

RJ45(Optional)

Joystick/Midi(15-pin Female)

PS/2 Keyboard
(6-pin Female)

Mic Connectors

Line in Audio

Universal Serial Bus(USB2)

Line Out 1/8" Stereo

Serial Port (9-pin Male) COM1

Serial Port (9-pin Male) COM2
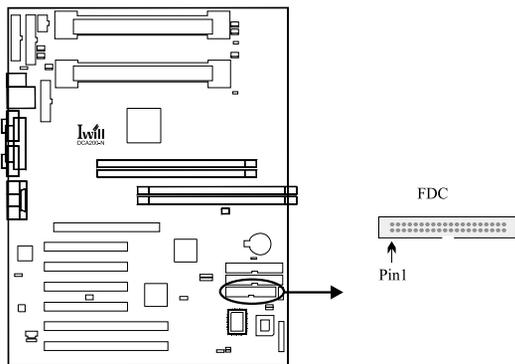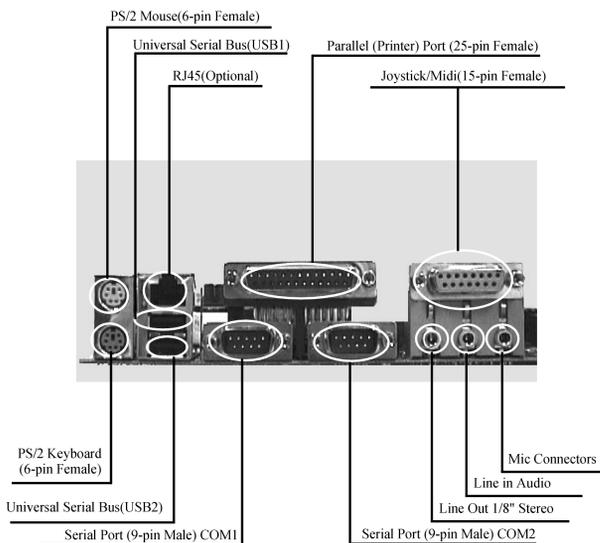
4.7.3.1   PS/2 Mouse Connector (Green color)

This connector can be used to support a PS/2 mouse.

4.7.3.2   PS/2 Keyboard Connector (Purple color)

This connector can be used to support a PS/2 keyboard.

The PS/2 mouse and PS/2 keyboard can be auto-detected by this motherboard. That means if you plug the PS/2 keyboard into the mouse connector, it still can work without any trouble and vice versa. It i recommended that you turn off the computer before connecting or disconnecting keyboard and/or mouse.

4.7.3.3   Universal Serial Bus Connectors

This motherboard has two USB ports, any USB-compatible peripherals and/or hub can be connected into either USB port.

4.7.3.4   First Serial port COM1 Connector (Teal color)

One serial port is ready for a modem or other serial devices. A second serial port is available using a serial port bracket connected from the motherboard to an expansion slot opening.

4.7.3.5   Second Serial port COM2 Connector (Teal color)

One serial port is ready for a modem or other serial devices. A second serial port is available using a serial port bracket connected from the motherboard to an expansion slot opening.

4.7.3.6   Parallel port Connector (Burgundy color)

This connector is used for printers, or other parallel devices.

4.7.3.7   Joystick/Midi and Audio Port Connector (Gold color)

You may connect joysticks or game pads to this connector for playing games, or connect MIDI devices for playing / editing professional audio. Line Out (Lime color) can be connected to headphones or powered speakers. Line In (Light Blue color) allows audio sources to be recorded by your computer or played through the Line Out connector. Mic (Pink color) allows microphones to be connected for inputting voice.

4.7.3.8   Ethernet RJ45 Connector

The RJ45 connector is optional at the time of purchase and is located on top of the USB connectors. The connector allow the motherboard to connect to a Local Area Network (LAN) through a network hub.

4.7.4   CPU, Auxiliary and System FAN Connectors (FCPU, FAUX and FSYS)

There are three fan connectors on this motherboard. The J39 (FCPU) is designed to support CPU fan; the J41 (FSYS) is for system fan used and you can connect any auxiliary fan to the J40 (FAUX). Depending on the fan manufacturer, the wiring and plug may be different. In most of the case, the red wire is positive, while the black is ground. Connect the fan's plug to the board taking into consideration the polarity of the connector.

The "Sense" signal is to be used only by a specially designed fan with rotation signal. You may use the hardware monitoring utility to monitor the Rotations per Minute (RPM) of the fan.

Fcpu1

Pin Assignment
1:GND
2:12V
3:SENSE

1   2   3

Fcpu0

Pin Assignment
1:GND
2:12V
3:SENSE

1   2   3

Fsys

Pin Assignment
1:GND
2:12V
3:SENSE

1   2   3

NOTE
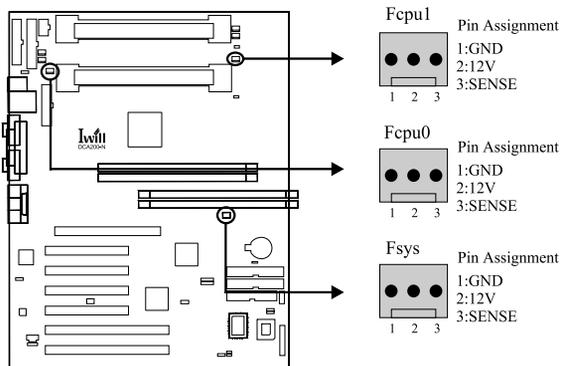
1. **The CPU will overheat if there is no airflow across the CPU heatsink.**
2. **Damage may occur to the CPU fan and/or motherboard if these pins are incorrectly used.**

4.7.4.1 J1A & J1B Fan connectors for Dual Retention Module (4cm type Fan)

J1A

Pin Assignment
1: GND
2: 12V
3: NC

1   2   3

J1B

Pin Assignment
1: GND
2: 12V
3: NC

1   2   3

4.7.4.2 J2A & J2B Fan connectors for Dual Retention Module (4cm type Fan)

J2A

Pin Assignment
1: GND
2: 12V
3: NC

1   2   3

J2B

Pin Assignment
1: GND
2: 12V
3: NC

1   2   3
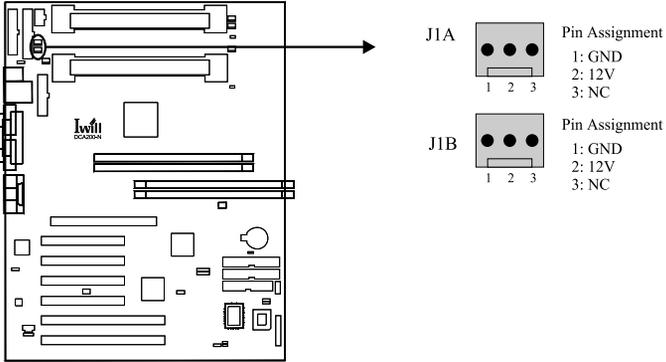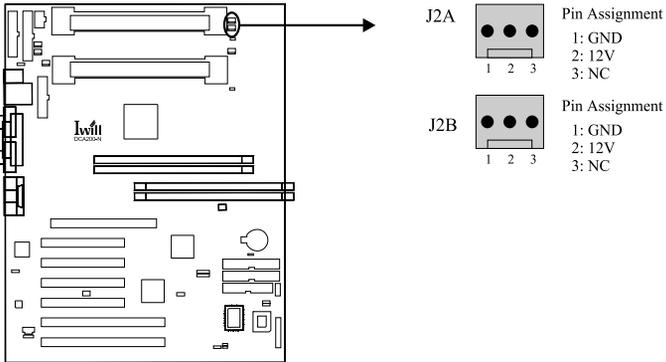
4.7.5 Auxiliary Temperature Sensor Connectors (TCPU ; TAUX ; TSYS)

This motherboard has three temperature sensor headers. You can connect the temperature sensors to these headers in order to monitor and CPU the temperature.The three connectors without orientation limit.

NOTE

The CPU temperature can be monitored by a CPU inside thermal diode. If your CPU does not have this feature, purchase one temperature sensor and connect it to the Auxiliary Temperature Sensor Connector.
Onboard System Temp Sensor.
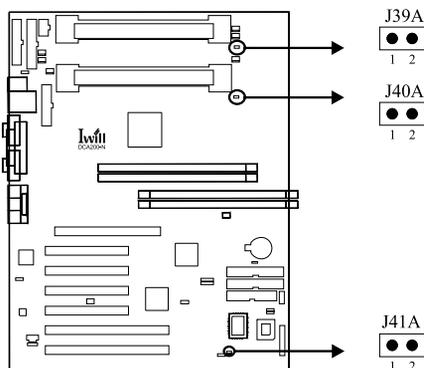
4.7.6 Chassis Intrusion Connector (CASE) (J42)

This connector is for a chassis designed for chassis intrusion detection. After-market toggle switches may also be installed to the chassis panel or on any removable components. Two wires should be available from the chassis to connect to this connector. When any chassis component is removed, the contact should open and the motherboard will record a chassis intrusion event. If this feature is not used, a jumper cap must be placed over the 2 pins of the connector.

J42

1   2
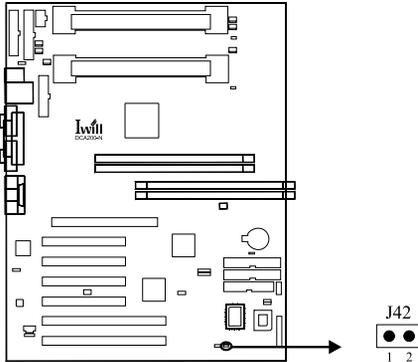
4.7.7   Front Panel Connector (J43)

This connector is composed of all the headers that may be connected to the front panel of the chassis.

J43
PWR-ON

1:	13:
3: Anode	15: VCC
4: Cathode	16: NC
5:	17: GND
6:	18: KL
7: Anode	19: GND
8: Cathode	20: NC
9:	21: VCC
10:	22: GND
11: RST	23: NC
12: GND	24: SPEARK (BUZZ)

ACPI   ALED   RST   PLED   KL   SPKR
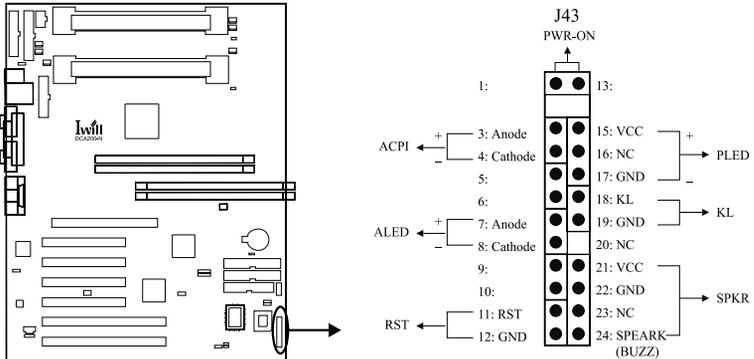
4.7.7.1   Power/Soft-Off Connector (PWR_ON)

The system power is controlled by a momentary button connected to this connector. Pressing the button once will switch the system between ON and OFF. Pushing the button for more than 4 seconds will turn the system off.

4.7.7.2   ACPI LED Connector (ACPI)

This 2-pins connector is for a ACPI power status indicator. The LED status will depend on the connector.

4.7.7.3   IDE LED Connector (ALED)

This 2-pin connector connects to the case-mounted IDE LED, which lights when the IDE devices connected to the primary / secondary IDE connectors are working.

4.7.7.4   Reset Connector (RST)

This 2-pin connector connects to the case-mounted reset button for rebooting your computer without having to turn off the power supply.

4.7.7.5   System Power LED Connector (PLED)

This 3-pin connector connects to the case-mounted system power LED, which lights when the system is powered on.

4.7.7.6   Keyboard Lock Connector (KL)

This 2-pin connector connects to the case-mounted key switch to allow keyboard locking.

4.7.7.7   Speaker Connector (SPKR)

This 4-pin connector connects to the case-mounted speaker.

4.7.8   Creative SB_LINK Header

This is the SB_LINK connector. In order to enabling users to play real-mode DOS games. Connect the cable provided by PCI sound card to this connector.

SB_Link   Pin Assignment

2   4   6

1   3   5
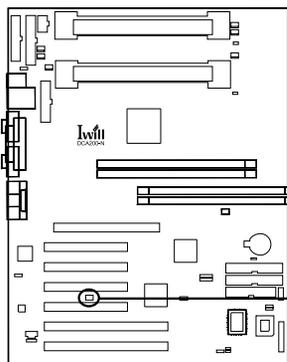
1:GNT#A
2:GND
3:NC
4:RE0#A
5:GND
6:SERIR0

4.7.9   Infrared Connector (IR)

This connector supports an optional wireless transmitting and receiving infrared device when using the appropriate application software.

> **NOTE**
>
> a. **When using a SIR/FIR devices, you need to enter the BIOS setup program and configure the "ART Mode Select" field as "IrDA".**
> b. **When using a CIR device, the jumper cap of JP6 should be placed over 1-2 in order to use Consumer Infrared power up.**

IR
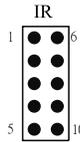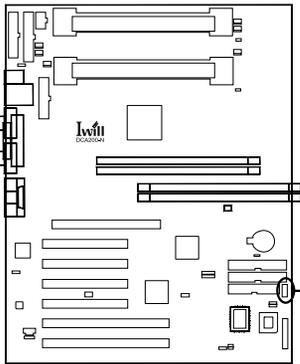
Pin Assignment

1:5V   6:NC
2:NC   7:CIRRX
3:IRRX   8:5VSB
4:GND   9:NC
5:IRTX   10:NC

4.7.10 Wake-On-LAN Connector (WOL)

This connector connects to a plug-in network card, which supports the WOL technology to powers up the system when a wakeup packet or signal is received through the LAN card.

> a. **You may need to enable the "Wake Up by Ring/LAN" feature in the BIOS setup program.**
> b. **Your system must have a ATX power supply with at least 720mA 5VSB power.**
> c. **This motherboard only supports the LAN card with a high-active wake signal.**

Wol

Pin Assignment

1 2 3

1:5VSB
2:GND
3:LAN_WAKE
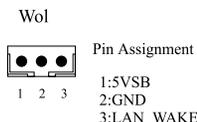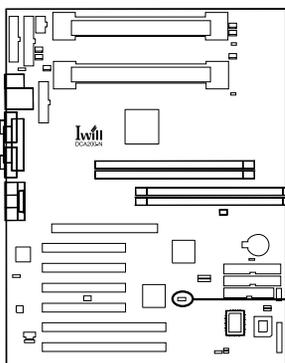
4.7.11 Wake-On-Modem Connector J47 (WOM)

This connector connects to internal modem cards (PCI or AMR) with a Wake-On-Modem output to powers up the system when a ringup packet or signal is received through the modem card.

> a. **For the external Modems, the Wake-On-Modem is detected through the COM port.**
> b. **You need to enable the "Wake Up by Ring/LAN" feature in the BIO setup program.**
> c. **Your system must have a ATX power supply with at least 720mA 5VSB power.**

4.7.12 SMBUS connector J48 (SMBUS)

This connector provides the connectivity of SMBUS utilization.
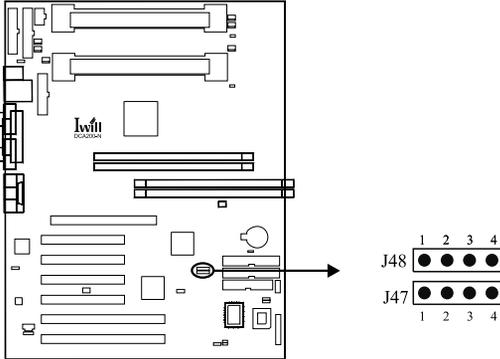
4.7.13 Internal Audio Connector (AUX_IN) & (CD_IN)

These connectors allow you to receive stereo audio input from such sound sources as a CD-ROM, TV tuner or MPEG card.

4.7.14 ATX Power Supply Connector

This connector connects to the ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes.

In order to support the power up function other than power/soft-off button, such as Wake-On-LAN, Wake-On-Modem, your ATX power supply must supply at least 720mA 5VSB. We would like to suggest you to use over 300 power supply.

POWER CONNECTOR

1:+3.3V	11:+3.3V
2:+3.3V	12:-12V
3:Ground	13:Ground
4:+5V	14:Power Supply On
5:Ground	15:Ground
6:+5V	16:Ground
7:Ground	17:Ground
8:Power Good	18:-5V
9:+5V Standby	19:+5V
10:+12V	20:+5V

4.7.15 WTX Power Supply Connector

J37A

Pin Assignment

	1:	13:
	2:	14:
3.3V	3:	15:	3.3V
	4:	16:
	5:	17:	3.3V Stand by
	6:	18:
	7:	19:
GND	8:	20:	3.3V
	9:	21:
	10:	22:
	11:	23:
5V	12:	24:	5V

J37B

Pin Assignment

```
         1:    12:         GND
NC       2:    13:
         3:    14:    NC
         4:    15:    GND
GND      5:    16:
+12V     6:    17:         +12V
-12V     7:    18:    3.3V Stand by
         8:    19:
NC       9:    20:         NC
Power good  10:  21:    Power Supply On
NC      11:    22:    NC
```

11 22
1 12

J37C

Pin Assignment

```
              1:   5:
+12V-DIG      2:   6:    GND
              3:   7:
NC            4:   8:    NC
```

4 8
1 5

4.7.16 Power On Procedures

4.7.16.1 After all connections are made, close the system case over.

4.7.16.2 Be sure that all switches are off.

4.7.16.3 Connect the power cord into the power supply located on the back of your system case (please refer to the manual of your power supply).

4.7.16.4 Connect the power cord into a power outlet that is equipped with a surge protector.

4.7.16.5 Many of the power supply support 110V/220V by a switch setting. Switch your power supply to the correct supply voltage (refer to the power supply's manual).

4.7.16.6 Turn on your system in the following order:

   (1)   The monitor.

   (2)   The external devices.

   (3)   The computer system.

> The power LED on the front panel of the chassis will light. After few seconds, the system will then run power-on tests. Some additional messages will appear on the screen during the test. If you do not see anything within 30 seconds from the time you turn on the power, the system may have failed a power-on test. Recheck the jumper settings and connections or call your retailer for assistance.

4.7.17 Power Off Procedures

4.7.18.1 Exit from all the software applications.

4.7.18.2 Shut down your operating system.

4.7.18.3 Switch off the power button. If you are using Windows 95/98, the power supply should turn off automatically after Windows shut down.

4.7.18.4 Turn off all the external devices.

4.7.18.5 Turn off your monitor.

Chapter 5

BIOS Setup

5.1 Introduction

The motherboard uses AWARD BIOS, which is stored in flash memory and can be upgraded using the appropriate software program. The setup program is for viewing and changing the BIOS setting for a computer. These settings are stored in battery-backed RAM so that it retains all the settings after the power has been turned off.

5.1.1 Upgrade BIOS

The BIOS can be upgraded from a diskette with the Award Flash utility — AWDFLASH.EXE. The BIOS image file, and update utility are available from IWILL's WEB site: www.iwill.net

5.1.2 Enter BIOS setup program

Power-on the system by either pressing the Power-On button, or by using any of the power-on features provided by the motherboard. Then, press the <Del> key after the Power-On Self Test (POST), and before the scanning of IDE devices. Simply look for the message "Press DEL to enter SETUP" displayed at the bottom of the screen during the boot up process. If the message disappears before you've had a chance to respond, you can restart the system by

Turning off the system power then turn it on again, or

Pressing the "RESET" button on the system case, or

Pressing <Ctrl>, <Alt> and <Del> keys simultaneously.

5.1.3 Using BIOS setup program

The following table shows the function keys available for each menu screen.

↑Up	Move to the previous field
↓Down	Move to the next field
←Left	Move to the field on the left hand side
→Right	Move to the field on the right hand side
<Esc>	Quit from setup program without saving changes, or Exit from current menu page and return to main menu page
<PgUp> or <+>	Select the previous value for a field
<PgDn> or <->	Select the next value for a field
<F1>	General Help
<F2>	Item Help
<F5>	Previous Values
<F6>	Fail-Safe Defaults
<F7>	Optimized Defaults
<F10>	Save the current value and exit setup program

> **Generally, the BIOS default settings have been carefully chosen by the system manufacturer to provide the absolute maximum performance and reliability.   It is very dangerous to change any setting without full understanding.   We strongly recommend that you**
>
> **DO NOT update your BIOS if the system works perfectly.**
> **DO NOT change any setting unless you fully understand what it means.**

If the system does not work smoothly after changing the BIOS settings, follow the procedures described previously, enter the BIOS setup program, then load the original manufacturer default settings.

If the system is no longer able to boot after changing the settings, the only way to recover it is to clear the data stored in RTC CMOS. To reset the RTC CMOS data, take the JP1 jumper cap off pins 1-2, place onto pins 2-3, and then place back onto pins 1-2 again. This will return the RTC to the default setting. Then, get into the BIOS setup program , choose Load Fail-Safe Defaults ; Load Optimized Defaults, and select the original manufacturer default settings in your CMOS.

5.2   Main Menu

The main menu allows you to select from several setup pages. Use the arrow keys to select among these pages and press <Enter> key to enter the sub-menu. A brief description of each highlighted selection appears at the bottom of the screen.

5.3 Standard CMOS Features

```
CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                    Standard CMOS Features

Date (mm:dd:yy)         Tue, Dec 14 1999          Item Help
Time (hh:mm:ss)         13 : 48 : 18
                                               Menu Level    ▶
▶ IDE Primary Master    Press Enter None
▶ IDE Primary Slave     Press Enter None        Change the day, month,
▶ IDE Secondary Master  Press Enter None        year and century
▶ IDE Secondary Slave   Press Enter None

  Drive A               1.44M, 3.5 in.
  Drive B               None
  Floppy 3 Mode Support Disabled

  Video                 EGA/VGA
  Halt On               All Errors

  Base Memory               640K
  Extended Memory         64512K
  Total Memory            65536K

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

5.3.1 Date

This field specifies the current date. The date format is <month>, <day>, and <year>.

5.3.2 Time

This field specifies the current time. The time format is <hour>, <minute>, and <second>.

The time is calculated based on the 24-hour (military-time) clock.

5.3.3 IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave

Press "Enter" to enter next page for detail hard drive setting.

5.3.3.1   IDE HDD Auto-Detection

Auto-Detect the HDD's Capacity, and its parameters.

5.3.3.2 IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave

This field specifies the parameter of drive that corresponds to the drive installed in your system.

"Manual" lets you set the remaining fields on this screen. Selects the type of fixed disk.

Options	Description
Auto (*)	BIOS automatically fills in the values for the cylinders, heads and sectors fields
None	No disk drives are attached

5.3.3.3 Capacity

Your disk drive size

5.3.3.4 Access Mode

This field specifies the IDE translation mode.

55

Options	Description
NORMAL	Specifies traditional CHS addressing mode
LARGE	Specifies extended CHS translation mode
LBA	Specifies LBA translation mode
AUTO (*)	BIOS specifies translation method automatically

5.3.3.5 Cylinders

Set the number of cylinders for this hard disk.

5.3.3.6 Heads

Set the number of read/write heads

5.3.3.7 Precomp

Setting a value of 65535 means disable write precompansation feature.

5.3.3.8 Sectors

Set the number of sectors per track

5.3.4 Drive A / Drive B

This field specifies the type of floppy drives.

Options	Description
None	No floppy drive is connected
(*Drive B default)	
360K, 5.25 in.	A 360K floppy drive is connected
1.2M, 5.25 in.	A 1.2M floppy drive is connected
720K, 3.5 in.	A 720K floppy drive is connected
1.44M, 3.5 in.	A 1.44M floppy drive is connected
(*Drive A default)	
2.88M, 3.5 in.	A 2.88M floppy drive is connected

5.3.5 Floppy 3 Mode Support

3 Mode floppy drive is a type of 3.5-inch drive used by NEC PC98 computers. It supports both 1.2M and 1.44M formats using the same drive. This field specifies which drive supports 3 Mode. When a floppy drive is specified to support 3 Mode, the respective drive setting in "Drive A / Drive B" field will be invalid.

Options	Description
Disabled (*)	No 3 Mode drive is connected
Drive A	A 3 Mode drive is connected as drive A
Drive B	A 3 Mode drive is connected as drive B
Both	Both drive A and drive B are 3 Mode drives

5.3.6 Video

This field specifies the type of the graphics adapters used by the primary system monitor.

Options	Description
EGA/VGA(*)	Specifies EGA or VGA adapter
CGA 40	Specifies CGA adapter with 40 column mode
CGA 80	Specifies CGA adapter with 80 column mode
MONO	Specifies Monochrome adapter

5.3.7 Halt On

This field determines how the system reacts to errors once detected.

Options	Description
All Errors (*)	Each time the BIOS detects a non-fatal error, the system will stop and display an error message
No Errors	The system will not stop for any errors that are detected
All, But Keyboard	The system will stop for any errors except keyboard error
All, But Diskette	The system will stop for any errors except diskette error
All, But Disk/Key	The system will stop for any errors except diskette and keyboard errors

5.3.8 Base Memory

The amount of base (conventional) memory installed in the system.   The value of the base memory is typically 640K. This field has no options.

5.3.9 Extended Memory

This is the amount of memory located above 1MB in the processor's memory address map. This field has no options.

5.3.10 Total Memory

Displays the total memory available in the system

5.4 Advanced BIOS Features

> **An asterisk (*) denotes the default setting, whenever appropriate.**

5.4.1 Virus Warning

When this function is enabled, the BIOS monitors the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and then display an error message. Afterwards, if necessary, you can run an anti-virus program to locate and remove the problem before any damage is done.

Many disk diagnostic programs will attempt to access the boot sector table, which can cause the above warning message. If you run such a program, we recommend that you first disable the Virus Warning function beforehand.

Options   **Enabled**

             Disabled (*)

5.4.2 CPU Internal Cache

This field configures the CPU internal cache (L1 cache).

Options   **Enabled (*)**

             Disabled

5.4.3 External Cache

This field configures the system's external cache (L2 cache).

Options   **Enabled(*)**

Disabled

5.4.4 CPU L2 Cache ECC Checking

This field specifies whether the CPU L2 cache supports ECC or not.

Options   **Enabled**

Disabled (*)

5.4.5 Processor Number Feature

Intel® Pentium® III processors are equipped with a built-in processor serial number for security purposes. When enabled, you allow reading access to this serial number.

Options   **Enabled**

Disabled (*)

5.4.6 Quick Power On Self Test

This field allows the system to skip certain tests while booting. This will decrease the time needed to boot the system.

Options   **Enabled(*)**

Disabled

5.4.7 First / Secondary / Third / Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

Options   **Floppy(*)**

LS/ZIP

HDD-0 (**)

SCSI (***)

CD-ROM

HDD-1

HDD-2

HDD-3

LAN

Disable

5.4.8 Swap Floppy Drive

When enabled, floppy drives A and B will be exchanged without the user physically

changing the connection on the cable.

Options   **Enabled**

Disabled (*)

5.4.9 Boot Up Floppy Seek

Seeks disk drives during boot up. Disabling speeds boot up.When enable ,the BIOS will check the flooy drive status during boot up.

Options   **Enabled** (*)

Disabled

5.4.10 Boot Up NumLock Status

This field determines the configuration of the numeric keypad after system boot up.

Options   Description

On (*)   Keypad works as number keys

Off   Keypad works as arrow keys

5.4.11 Gate A20 Option

This field configures how the gate A20 is handled. The gate A20 is a device used to address memory above 1 MB. At first, the gate A20 was handled from a pin on the keyboard. While some keyboards still provide this support, it is more common, and much faster, for modern system chipsets to provide support for gate A20.

Options   Description

Fast (*) GateA20 signal supported by core logic

Normal GateA20 signal supported by keyboard controller

5.4.12 Typematic Rate Setting

This field determines if the typematic rate is to be used. When enabled, the BIOS will report (after a moment) that the key has been depressed repeatedly. When disabled, the BIOS will report only once if a key is held down continuously.

Options   **Enabled**

Disabled (*)

5.4.13 Typematic Rate (Chars/Sec)

When Typematic Rate Setting enabled, this field specifies how many characters will be displayed in one second when a key is held down continuously.

Options   **6 (*), 8, 10, 12, 15, 20, 24, 30**

5.4.14 Typematic Delay (Msec)

When enabled, typematic delay allows you to select the time delay between when the key is first pressed and when the acceleration begins.

Options   **250 msec (*), 500 msec, 750 msec, 1000 msec**

5.4.15 Security Option

This field configures how the system security is handled. It works conjunction with SETTING SUPERVISOR / USER PASSWORD page to control the security level of the system.

Options   Description

Setup (*)   System needs a password to enter BIOS setup program

System   System needs a password to boot

5.4.16 MPS Version Control For OS

This field specifies the version of MPS used by the motherboard.

Options   **1.1 (*) / 1.4**

5.4.17 OS Select for DRAM >64MB

When enabled, this field allows you to access the memory that is over 64MB under OS/2.

Options   **OS/2**

               Non-OS/2 (*)

5.4.18 Report No FDD For WIN 95

For a floppy diskless system that runs Windows 95, this field should be set to Yes.

Options   **Yes**

               No (*)

5.4.19 Video BIOS Shadow

When enabled, the video BIOS will be copied to system memory and increase the video speed.

Options   **Enabled (*)**

               Disabled

5.4.20 C8000-CBFFF / CC000-CFFFF / D0000-D3FFF Shadow
D4000-D7FFF / D8000-DBFFF / DC000-DFFFF Shadow

When enabled, the extended ROM data located at the respective address range will be copied to system memory.

Options   **Enabled / Disabled (*)**

5.5   Advanced Chipset Features

This setup page is used to specify advanced features available through the chipset. The

default settings have been chosen carefully for most operating conditions. DO NOT change the value of any field in this setup page without full understanding.

5.5.1 RDRAM Bus Frequency

This field select pre-defined RDRAM speed for different frequency. It is available only when the Auto configuration field is 300 MHz.

Options   **300/400 MHz**

5.5.2 DRAM Data Integrity Mode

When enabled, the BIOS will use ECC (Error Checking and Correcting) protocol to increase integrity of system data. When ECC is selected, all memory modules used by the system must support ECC.

Options   **ECC**

Non-ECC(*)

5.5.3 System BIOS Cacheable

When enabled, accesses to the system BIOS will be cached.

Options   **Enabled(*)**
        Disabled

5.5.4 Video BIOS Cacheable

When enabled, access to the video BIOS will be cached.

Options **Enabled**

Disabled (*)

5.5.5 Video RAM Cacheable

When enabled, access to the video memory located at A0000H to BFFFFH will be cached.

Options **Enabled**

Disabled (*)

5.5.6 Memory Hole At 15M-16M

Some add-in cards need to re-map its resource to a block of main memory address range. Any host cycles that match this memory hole are passed on to the add-in cards.

Options **Enabled**

Disabled (*)

5.5.7 Delayed Transaction

When enabled, the south bridge PIIX4 will supports the Delayed Transaction mechanism when it is the target of a PCI transaction. The PCI revision 2.1 compliant requires this field to be enabled.

Options **Enabled** (*)

Disabled

5.5.8 AGP Aperture Size (MB)

This field specifies the size of system memory that can be used for AGP graphics aperture.

Options **4 / 8 / 16 / 32 / 64 (*) / 128 / 256**

5.6 Integrated Peripherals

5.6.1 On-Chip Primary / Secondary PCI IDE

This field enables or disables the onboard IDE controller.

Options   **Enabled (*)**

               Disabled

5.6.2 IDE Primary Master / Slave PIO
IDE Secondary Master / Slave PIO

These fields configure the PIO (Programmable Input Output) transfer mode for each IDE devices. The maximum transfer rates of each PIO mode are listing as follow:

> **Higher setting may exceed the capability of older IDE device and cause problem.**

PIO Mode Setting	Maximum transfer rate
PIO Mode 0	3.3 MB/sec
PIO Mode 1	5.2 MB/sec
PIO Mode 2	8.3 MB/sec
PIO Mode 3	11 MB/sec
PIO Mode 4	16.6 MB/sec

Options   Description

Auto (*)	The BIOS negotiates with device automatically
Mode 0	Use Mode 0 timing to access device
Mode 1	Use Mode 1 timing to access device
Mode 2	Use Mode 2 timing to access device
Mode 3	Use Mode 3 timing to access device
Mode 4	Use Mode 4 timing to access device

5.6.3 IDE Primary Master / Slave UDMA
IDE Secondary Master / Slave UDMA

If you select Auto, the IDE controller uses Ultra DMA 33/66 Mode to access Ultra DMA-capable IDE devices. Depend on the resent of negociation with your HDD. The maximum transfer rate of Ultra DMA 66 Mode is 66.6 MB/sec.

Options   **Auto (*)**

                 Disabled

5.6.4 USB Controller

Select Enabled if your system contains USB peripherals.

Options   **Enabled**

                 Disabled (*)

5.6.5 USB Keyboard under DOS

Select Enabled if you want to use USB keyboard under DOS

Options   **Enabled**

                 Disabled (*)

5.6.6 Init Display First

This item allows you to decide which slot to activate first, either PCI slot or AGP slot.

Options   **PCI Slot**

                 AGP (*)

5.6.7 AC97 Audio/Modem

Auto" allows the motherboard's BIOS to detect whether you are using any AC'97 modem/audio device.If a modem/audio device is detected , the onboard modem/audio controller will be enabled ; if no modem/audio device is detected , the onboard modem/audio controller will be disabled. If you want to use different controller cards to connect modem and audio connector , set these fields to disabled".

Options   **Auto (*)**

                 Disabled

5.6.8 IDE HDD Block Mode

When enabled, the IDE controller will use the faster block mode to access devices.

Options   **Enabled (*)**

                 Disabled

5.6.9 Power-On Function

This field configures the Power-On mode of the system.

> **This feature only supports PS/2 keyboard and PS/2 mouse. It does not work with USB keyboard or serial mouse.**

The Power-On button will not function in this mode.

Options	Description
Password	You can assign a password string through KB Power-On Password field. Typing this password string will power-on your system.
Hot KEY	You can assign a hot key through the Hot Key Power-On field. Pressing this hot key will power-on your system.
Mouse/Password	"Double-Clicking" the mouse button or typing the KB power-on password will automatically power-on your system.
Mouse/Hot KEY	"Double-Clicking" the mouse button or typing theKB hot-key will power-on your system.
Button only (*)	Simply power-on your system by pressing thePower-On button on the front panel of your PC case.
Keyboard 98	Enables Keyboard 98 function. This function is good only for users of Keyboard 98.

5.6.9.1 KB Power On Password

In you wish to use this function, bring the cursor to the field written "Enter", then press <Enter>. The computer will display the message, "Enter Password". Type your password and press <Enter>. After the message

"Confirm Password" is displayed, re-type your password. The KB Power-On function will be in effect after you save and exit setup.

To disable a password, bring the cursor to the "Enter" field again, then press <Enter>. The computer will display the message, "Enter Password". Press <Enter>. A message will confirm that the password is disabled.

5.6.9.2   Hot Key Power On

This field specifies key selection for the Keyboard-Power-On hot key.

Options   **Ctrl-F1 / Ctrl-F2 / Ctrl-F3 / Ctrl-F4 / Ctrl-F5 /**
             Ctrl-F6

             Ctrl-F7 / Ctrl-F8 / Ctrl-F9 / Ctrl-F10 / Ctrl-F11 /
             Ctrl-F12

5.6.9.3   PS2 MOUSE Button Power on

This field specifies key selection for PS2 MOUSE Button Power on.

Options   **Left**
             Right

5.6.10 Onboard FDC Controller

This field enables or disables the onboard floppy controller.

Options   **Enabled (*)**
             Disabled

5.6.11 Onboard Serial Port 1 / 2

These fields configure the onboard serial ports. There are several port addresses and IRQ channels to select from.

Options	Description
3F8 / IRQ 4(*)	Port address 3F8h, IRQ 4
2F8 / IRQ 3(*)	Port address 2F8h, IRQ 3
3E8 / IRQ 4	Port address 3E8h, IRQ 4
2E8 / IRQ 3	Port address 2E8h, IRQ 3
Auto	BIOS assigns port address and IRQ channel automatically
Disabled	Disables serial port

5.6.12 COM2 Mode Select

This field must be configured in order to use the infrared connector, which supports infrared wireless transmitting and receiving of data between devices when using the appropriate application software.

Options   **Normal (*), IrDA, ASKIR**

5.6.12.1 RxD, TxD Active for IrDA and ASKIR functions

When setting the field to either IrDA or ASKIR, you must select the active
level of receiving and transmission signal.

Options   **Hi, Lo (*) / Lo, Hi / Lo, Lo / Hi, Hi**

5.6.12.2 IR Transmission delay for IrDA and ASKIR functions

When setting the field to either IrDA or ASKIR, you must select
whether or not you require a delay between IR transmissions.

Options   **Enabled (*)**
              Disabled

5.6.12.3 IR Duplex Mode

Options   **Full**
              Half (*)

5.6.12.4 Use IR Pins

Options   **IR-Rx2Tx2 (*)**
              RxD2 , TxD2

5.6.13 Onboard Parallel Port

This field configures the onboard parallel port. There are several port addresses
and IRQ channels to select from.

Options	Description
378 / IRQ 7(*)	Port address 378h, IRQ 7
278 / IRQ 5	Port address 278h, IRQ 5
3BC / IRQ 7	Port address 3BCh, IRQ 7
Disabled	Disables parallel port

5.6.14 Parallel Port Mode

This field configures the operating mode of an onboard parallel port. Ensure
you know the specifications of your parallel port devices before selecting field.

Options   **SPP (*) / EPP / ECP / ECP+EPP**

5.6.14.1 EPP Mode Select

When the Parallel Port Mode field is configured as EPP, ECP+EPP mode,
the EPP version needs to be specified. Please refer to your peripheral
document before selecting field.

Options	Description
EPP1.7	Use EPP 1.7 protocol

EPP1.9(*)   Use EPP 1.9 protocol

5.6.14.2 ECP Mode Use DMA

When the Parallel Port Mode field is configured as ECP, ECP+EPP mode, it needs a DMA channel for data transfer. This field specifies the DMA channel for ECP parallel port use.

Options	Description
1	Use DMA channel 1
3 (*)	Use DMA channel 3

5.6.15 AC PWR Loss Recovery

The field configures the system activity after experiencing a power failure.

Options	Description
Former-Sts	System returns to former status prior to AC loss event
Off (*)	System remains off after AC loss event

5.6.16 Game Port Address

This field configures the onboard game port. There are several port addresses to select from.

Options	Description
201(*)	Port address 201h
209	Port address 209h
Disabled	Disables game port

5.6.17 Midi Port Address

This field configures the midi port. There are several port addresses to select from.

Options	Description
Disabled (*)	Disables midi port
330	Port address 330h
300	Port address 300h
290	Port address 290h

5.6.18 Midi Port IRQ

This field configures the midi port IRQ. There are several IRQs to select from.

Options	Description
5 (*)	Port address IRQ5

    10   Port address IRQ10

5.7   Power Management Setup

Each power-saving mode has a respective timer. The value of the timer can be assigned or reloaded and it will count down to zero. When the timer equals to zero, the system will be forced into the related suspend or power-saving mode. If any predefined signal or event is detected during the timer counting period, the timer restarts automatically.

5.7.1   ACPI Suspend Type

There are several ACPI modes used to save computer's energy

S1 (POS) (*) This is the Power-On-Suspend state, the CPU clock will run at slower speed, when entering the suspend state.

S3 (STR) This is the Suspend-To-Ram state, all system data will be saved in system's memory and all devices except the memory will shut off.

5.7.2   Power Management

This feature allows the user to select the default parameters for the power-saving mode.

Options   Description

User Define(*)   User can specify the time the system enters suspend
        mode

Min Saving   When idle for one hour, the system enters suspend
        mode

Max Saving   When idle for fifteen minutes, the system enters
        suspend mode

5.7.3 Video off Method

This field specifies the method that video subsystem used for power saving.

Options   Description

V/H SYNC+Blank   Turn off the vertical and horizontal synchronization
                                ports and write blanks to the video buffer

Blank Screen   Writes blanks to the video buffer only

DPMS (*)   Initial display power management signaling with DPMS

5.7.4 Video Off In Suspend

This determines the manner in which the monitor is blanked.

Options   **Yes (*)**

                  No

5.7.5 Suspend Type

Select the Suspend Type.

Options   **Stop Grant (*) / PwrOn Suspend**

5.7.6 MODEM Use IRQ

This determines the IRQ in which the MODEM can use.

Options   **3 (*)/ 4 / 5 / 7 / 9 / 11 / NA**

5.7.7 APM Suspend Timer

This field specifies the time the system enters power-saving mode. It is available only when the Power Management field is set to User Define.

Options   **1 Min / 2 Min / 4 Min / 8 Min / 12 Min / 20 Min**

                  30 Min / 40 Min / 1 Hour / Disable (*)

5.7.8 APM HDD Power Down Timer

This field specifies the time the system enters HDD power down. It is available only when the Power Management field is set to User Define.

Options   **1 Min / 2 Min / 3 Min / 4 Min / 5 Min / 6 Min**

7 Min / 8 Min / 9 Min / 10 Min / 11 Min / 12 Min

13 Min / 14 Min / 15 Min / Disable (*)

5.7.9 PWR-Off Mode by PWR-BTTN

This field specifies the function of power button.

Options   Description

Instant-Off (*)   When power button pressed, the system turns off immediately.

Delay 4 Sec.   After the power button has been pressed and held for four seconds, the system turns off.

5.7.10 Wake up by PCI card

When enabled, you can "wake-up" your system using a PCI rev.2.2 card ,when a "PME" event occuring.

Options   **Enabled**

Disabled (*)

5.7.11 Wake up by LAN/RING

When Wake up by LAN function is enabled, the PC can power-on or "wake up" through LAN (Local Area Network).

When Wake up by RING function is enabled, the PC can power-on through an external modem connected to your PC.

Options   **Enabled**

Disabled (*)

5.7.12 CPU Thermal throttling

This field specifies the throttling function of CPU Thermal. When the CPU's temperature attain it's default protection point, the CPU will run slower in order to descend the heat generation from itself.

Options	Description
87.5%	Keep 87.5% of CPU's full speed performance
75.0%	Keep 75.0% of CPU's full speed performance
62.5%(*)	Keep 62.5% of CPU's full speed performance
50.0%	Keep 50.0% of CPU's full speed performance
37.5%	Keep 37.5% of CPU's full speed performance
25.0%	Keep 25.0% of CPU's full speed performance
12.5%	Keep 12.5% of CPU's full speed performance

5.7.13 PowerOn/Resume by Alarm

When enabled, you can set the date and time to automatically power-on your PC (similar to an alarm clock).

Options   Description

Disabled (*) Disables RTC alarm function

Enabled   Enter the Date and Time Alarm to power-on the PC.

To set alarm for every day, select "0" for Date (of month) Alarm.

5.7.14 Reset APM Timer Events

This field enables the system to detect activity, and restart the timer of the power-saving mode.

5.7.14.1 Primary IDE 0

If enabled, timer restarts whenever the master disk of the primary IDE channel is active.

Options   **Enabled**
              Disabled (*)

5.7.14.2 Primary IDE 1

If enabled, timer restarts whenever the slave disk of the primary IDE channel is active.

Options   **Enabled**
              Disabled (*)

5.7.14.3 Secondary IDE 0

If enabled, timer restarts whenever the master disk of the secondary IDE channel is active.

Options   **Enabled**
              Disabled (*)

5.7.14.4 Secondary IDE 1

If enabled, timer restarts whenever the slave disk of the secondary IDE channel is active.

Options   **Enabled**
              Disabled (*)

5.7.14.5   FDD, COM, LPT Port

If enabled, timer restarts whenever the floppy disk serial device/parallel device is active.

Options   **Enabled**
               Disabled (*)

5.7.14.6   PCI IRQ#

If enabled, timer restarts whenever any of the interrupts occurs.

Options   **Enabled**
               Disabled (*)

5.8   PnP/ PCI Configurations
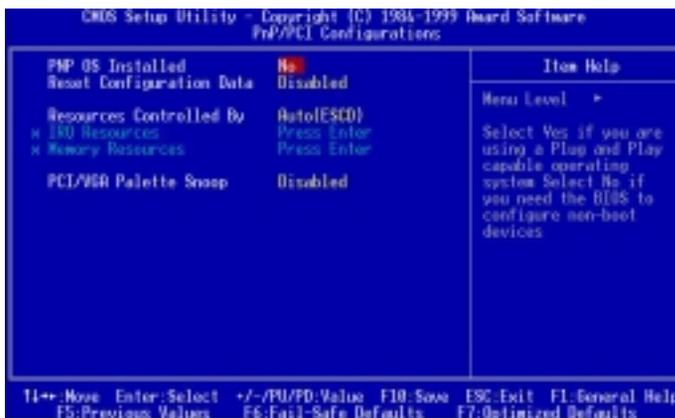
5.8.1   PNP OS Installed

The field specifies whether a Plug and Play operating system is installed.

Options   **Yes**
               No (*)

5.8.2   Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

Options   **Enabled**
               Disabled (*)

5.8.3   Resources Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability

means absolutely nothing unless you are using a Plug and Play operating system such as Windows(98/95. If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a ">").

Options	Description
Auto (ESCD)(*)	Resources controlled by BIOS automatically
Manual	Resources controlled by the user

5.8.4 PCI / VGA Palette Snoop

This field controls the ability of a primary PCI graphics controller to share a common palette with an ISA/VESA video or MPEG card.

Options	Description
Enabled	PCI VGA co-works with ISA MPEG card
Disabled (*)	All cases except above

5.9 PC Health Status

This page is monitoring your status of computer. On the screen displays CPU/System temperature, FAN speed, and voltages.
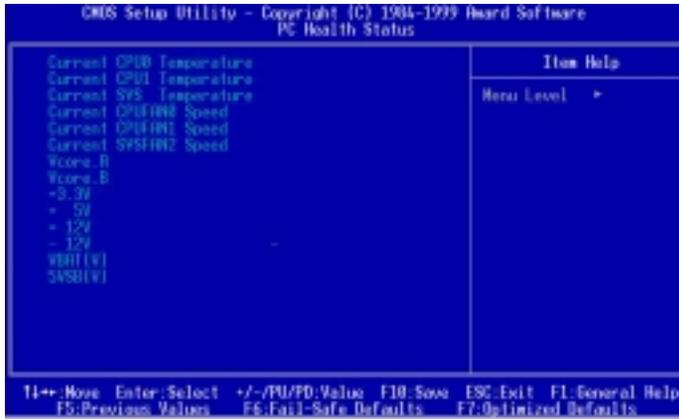
5.10 IWILL Smart Setting
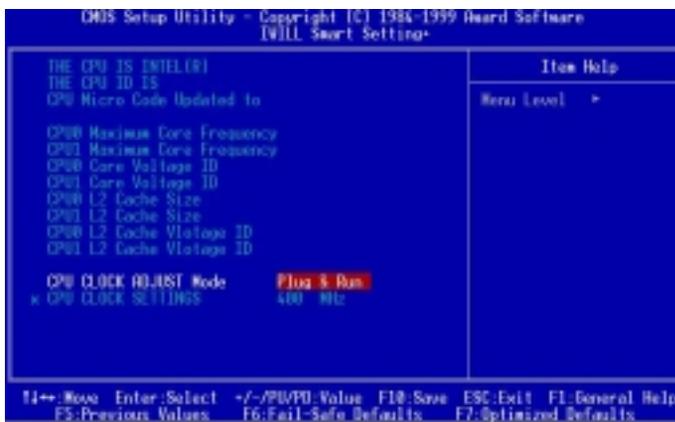
> **Over-clocking is not guaranteed.   Users must have substantial knowledge of proper CPU relative to adjusting CPU speeds.   Over-clocking should be done only by experienced engineers who conduct tests.**

5.10.1 CPU CLOCK ADJUST Mode

When choosing Plug & Run , the CPU frequency will be detected automatically. This function will only support DCA200 series, and provides to survey automatically CPU FSB. Let the O.S may run the stablest condition.

When choosing User Mode , user needs to set CPU frequency manually.

This field allows user to adjust the CPU frequency when CPU CLOCK SETTINGS on screen.

Options   (When CPU external frequency is 100MHz, BIOS will dispaly the following setting)

400/450/500/550/600/650/700/750/800 MHz

(When CPU external frequency is 133MHz, BIOS will dispaly the following setting)

400B/467B/533B/600B/667B/733B/800B/866B/933B MHz

1 GHz

5.11 Load Fail-Safe Defaults

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

to:

Pressing **'Y'** loads the BIOS default values for the most stable, minimal-performance system operations.

5.12 Load Optimized Defaults

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

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

5.13 Set Supervisor / User Password Setting

These setup pages are used for password setting. When a password has been enabled and the Security Option field is set as Setup, you will be required to enter the password every time you try to enter BIOS Setup program. This prevents an unauthorized person from changing any part of your system configuration. Additionally, if the Security Option field is set as Boot, the BIOS will request a password every time your system boot. This would prevent unauthorized use of your computer.

In you wish to use this function, bring the cursor to this field, then press <Enter>. The computer will display the message, "Enter Password". Type your password and press <Enter>. After the message onfirm Password" is displayed, re-type your password. The Supervisor Password function will be in effect after you save and exit setup.

To disable a password, bring the cursor to this field, then press <Enter>. The computer will display the message, "Enter Password". Press <Enter>. A message will confirm that the password is disabled. Once the password is disabled, the system will boot and you can enter setup program freely.

> **The User Password allows you to enter BIOS setup program, but yo cannot change the value of any fields Please keep your password in safe place.**

5.14 Save & Exit Setup

Saves current CMOS value and exit BIOS setup program.

5.15 Exit Without Saving

Abandons all CMOS value changes and exits BIOS setup program.

Chapter 6

Power Installer CD

6.1   Software Installation

The attached Power Installer CD contains all the necessary drivers, utilities for IWILL's full range of motherboards. It provides an easy way for users to install the needed drivers without going through a complicated process. The Power Installer CD is able to auto-detect and display the drivers, utilities needed for your motherboard.

6.1.1   What's inside Power Installer CD for this motherboard

6.1.1.1   Drivers
Intel INF Utility (Windows 9x only)
Security Driver
Software Audio Driver
Network Install Guide
MIDI Driver (Windows 98SE only)

6.1.1.2   Utilities
Make Driver
Hardware Monitor Utility (Windows 9x only)
PC-Cillin Anti-Virus
Suspend to Disk Guide
Adobe Acrobat Reader

6.1.1.3   Manuals

6.2   How to use the Power installer CD

The Power Installer CD supports the Auto Run program under Windows 98/95 and Windows NT operating systems. All the necessary drivers, utilities and manual for this motherboard will show on the screen. Select the one that needs to be installed, then simply follow the messages displayed on the screen to complete setup.

IWILL Power Installer does not support a keyboard at this moment. You must use a mouse to install it.

6.2.1   How to view manual

This Power Installer CD includes detailed information of all IWILL manuals for every motherboard manufactured by IWILL. Please insert the IWILL Power Installer CD into the CD-ROM drive; Click the "View Manual" item, and select the product that you want to view.

6.2.2 How to make driver diskette

6.2.2.1   Without O.S. installed

This bootable Power Installer CD also allows you to boot up your system, even when the OS has not been installed. During the boot-up process, you can perform "IWILL Diskette Creator," which will automatically make the driver diskettes you need.

> **At least one CD-ROM drive and one 1.44M floppy drive are necessary to make "IWILL Diskette Creator" work properly.**

Follow the instructions below to make your own device driver floppy diskettes if you have a CD-ROM with IDE interface. If you have already installed SCSI CD-ROM, please make sure your SCSI host adapter supports bootable CD-ROM, and then proceed directly to step 8 , and then finish the procedure.

1.First, power-on or "boot" your system.

2.Press **<Del>** key during boot sequence to enter " **CMOS Setup Utility**"

3.Use arrow keys to select "**ADVANCED BIOS FEATURES**" on the menu, then press "**Enter.**"

4.Select "**First Boot Device**" and change the default setting to "**CDROM**" using Page Up /Page Down key.

5.Press **<Esc>** key to go back to CMOS SETUP Utility menu.

6.Press **<F10>** to select "Save and Exit Setup"

7.Press **"Y"** then "Enter" to complete. Now you are able to boot up the system from the CD-ROM.

8.Insert the Power Installer CD into the CD-ROM drive and re-start the computer.

9.IWILL Diskette Creator will now execute automatically for making your own driver diskettes.

10.Make the desired driver diskettes according to the instructions displayed on screen.

6.2.2.2   Under windows 98/95/NT

You may just click on the software **Make Driver Diskettes Utility** shown on screen, then select the driver you need, follow the messages shown on screen to complete.

6.2.3   How to install Intel INF Utility (Windows 9x only)

You may just click on the **Intel INF Installation Utility** shown on screen that needs to be installed, then follow the prompts to complete setup.

STOP

After completing O.S. installation,user must install "Intel INF Installation Utility" first to avoid some problems during installation.

6.2.4 How to install Security Driver

You may just click on the **Security Driver** shown on screen that needs to be installed, then follow the prompts to complete setup.

6.2.6 How to install Software Audio Driver

You may just click on the **Software Audio Driver** shown on screen that needs to be installed, then follow the prompts to complete setup.

6.2.7 How to use Network install Guide

You may just click on the **Network Install Guide** shown on screen. Please follow the instructions to install the network driver.

6.2.8 How to install MIDI Driver (Windows 98SE only)

You may just click on the **MIDI Driver** shown on screen. Please follow the instructions to install the MIDI driver.

6.2.9 How to use Make Driver

You may just click on the **Make Driver** shown on screen, then follow the prompts to complete setup.

6.2.10 How to use PC-Cillin Anti-Virus program

Simply click on the **PC-Cillin Anti-Virus** shown on screen that be installed, then follow the prompts to complete setup.

6.2.11 How to use Hardware Monitoring Utility (Windows 9x only)

You may just click on the **Hardware Monitor Utility** shown on screen, then follow the prompts to complete setup.

6.2.12 How to use Suspend to Disk Guide

Simply click on the **Suspend to Disk Guide** shown on screen, then follow the prompts to complete setup.

6.3   Installing Operating Systems

This section briefly demonstrates how to install a few popular software operating

systems. Use this section only as a guide. It is highly recommended that users first refer to the installation manual of their operating system for a more thorough, detailed description on how to install the operating system.

6.3.1   Windows 98

Whenever installing Windows 98, please remember that Setup creates a new folder for Windows 98, and won't transfer any existing system settings. Windows 98 will become your default operating system, and will use standard system settings. This procedure represents an entirely new installation of Windows, therefore you'll need to reinstall any existing programs you may want to use.

> **During Setup, your computer will automatically restart several times using the Windows 98 Setup wizard.**

6.3.1.1   Installing the CD-ROM version of Windows 98

(1)   Place a Windows 98 Startup Disk into the floppy disk drive.

(2)   Restart your computer.

The Microsoft Windows 98 Startup menu will appear.

(3)   Place the Windows 98 CD into your CD-ROM drive.

(4)   Type the number 1 and press <ENTER >.

A series of scans is performed, and then the MS-DOS prompt is displayed.

(5)   Type the word setup at the MS-DOS display, and press <ENTER>.

Setup performs a check (A message will be displayed).

This message won't appear if your computer can't locate your CD-ROM drive. If you haven't installed the correct CD-ROM driver, please consult your drive's documentation or contact your hardware manufacturer.

(6)   Press <ENTER>.

Microsoft ScanDisk will check your disk drives for errors.

(7)   When ScanDisk finishes, press the X key.

Setup will initialize. Then, Windows 98 Setup begins.

(8)   Please follow the instructions that are displayed.

> **Setup may ask you to insert your original Windows 95 or Windows 3.1 disks if you're using the upgrade version of Windows 98.**

6.3.2 Windows NT

6.3.2.1 Installing the CD-ROM version of Windows NT on an IDE system

(1) First, power-on or "boot" your system.

(2) Press <Del> key during boot sequence to enter " CMOS Setup Utility"

(3) Use arrow keys to select "Advanced BIOS FEATURES" on the menu, then press "Enter."

(4) Select "Boot Sequence" and change the default setting from A, C, SCSI to "CD-ROM, C, A" using Page Up /Page Down key, save, and reboot.

(5) Place the Windows NT 4.0 CD-ROM in the drive, and boot from CD-ROM.

(6) Follow all instructions to finish Windows NT installation.