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CHAPTER 1   INTRODUCTION

The mainboard is a high-performance personal computer mainboard based on the Pentium   II processor.

The mainboard uses the highly integrated Intel   82440LX AGPset which optimize the system bandwidth and concurrency with the implementation
of Quad port Acceleration (QPA). QPA provides 4-port concurrent arbitration of the processor bus, graphics, PCI bus and SDRAM.

The Intel   82371AB chipset integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM (OS Direct Power Management) function. The Intel   82371AB chipset also improves the IDE transfer rate by supporting Ultra DMA/33 IDE that transfers data at the rate of 33MB/s.

The mainboard supports the LM75 CPU Temperature Monitor Controller.

The mainboard also supports the LM78 System Hardware Monitor Controller as optional function. The LM78 function includes: CPU/Power Supply/Chassis Fan Revolution Detect, CPU/System Voltage Monitor, and System Temperature Monitor.

1.1 Mainboard Features

☞**CPU**
- Slot 1 for Pentium II processor.
- Supports 200MHz, 233MHz, 266MHz, 300MHz and 333MHz.
- Core/Bus ratios are x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6 and higher.

☞**Clock Generator**
- 66.6MHz clock are supported.

☞**Switching Voltage Regulator**
- On-board switching mode DC-DC Step Down Regulator.

☞**Chip Set**
- Mainboard: Intel 82440LX PCI Chipset.
- Enhanced I/O : WINBOND W83977TF-AW.

☞**System Memory, DIMM*3; SIMM1-4**
- Supports three 168-pin unbuffered DIMM sockets and four 72-pin SIMM sockets on the mainboard.
- You can use 3.3V SDRAM on the 168-pin DIMM socket of the mainboard. T he total capacity is up to 384MB.
- Otherwise, you can use 5V EDO DRAM on the 72-pin SIMM socket of the mainboard. The total Capacity is up to 256MB.
- Please notice that you can't use the SIMM RAM MODULE and DIMM RAM MODULE at the same time.

☞**Expansion Slots, AGP1, PCI1-PCI4, ISA1-ISA3**
- One AGP(Accelerated Graphics port) slot.
    - AGP specification compliant.
- Three 32-bit Master PCI Bus slots and three 16-bit ISA bus slots wherein one shared slot that can be used as ISA or PCI.

☞**ACPI (ATX Power Supply Mode)**
- power management. Soft-off Control.
- Supports Modem Ring-in. RTC Alarm wake up. BUTTON ONLY wake

3

up.

● Supports PS/2 mouse Left/Right wake up. Password wake up. Hot key
 wake up.

☞Enhance PCI IDE & I/O Interface

● Supports two PCI Bus, Master IDE ports (up to 4 IDE devices).

● Supports Ultra DMA/33 function.

● Supports SCSI/CD-ROM function.

● 1. floppy port supports 2FDD with 360k, 720k, 1.2M, 1.44M and 2.88M
bytes.

● 2. serial ports (COM1+COM2 Two 16550 high speed UART ports).

● 1. paralle1 port supports SPP/EPP/ECP mode.

● 2. USB ports.

● 1. IrDA TX/RX Header.

● AT Keyboard interface and PS/2   mouse interface.

☞System Green BIOS

● Flash BIOS option on board, AWARD deep green BIOS, PLUG & PLAY,
 PnP function.

● Auto configuration for PCI add-on cards.

● CPU stop-clock, real zero clock for CPU.

● I/O Device ‛ s power saving, APM & SMI.

● Implements the EPA Energy Star PC specification with Deep Green system
 design.

> \# Full-on   : System runs in full speed CPU clock.
> \# Doze   : System scales-down CPU clock.
> \# Standby : System scales-down the CPU clock, and turns off
> video
>
>   display, and spin-off hard disk driver.
> \# Suspend : With SMM CPU, stop CPU clock in suspend mode.

☞Power Connect

● AT/ATX Power Supply.

☞PCB Dimension

● AT Form Factor : 33 cm (L) x 22cm (W) x 4 layers PCB.

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2.7 USB Connector (Right : USB0 , Left : USB 1) : CN3

The Mainboard Provides A UHCI (Universal Host Controller Interface) Universal Serial BUS Connector Attaching USB Device . You Can Play The USB Device Directly To This Connector . The Connector Location And Pin Definition Are Shown Below
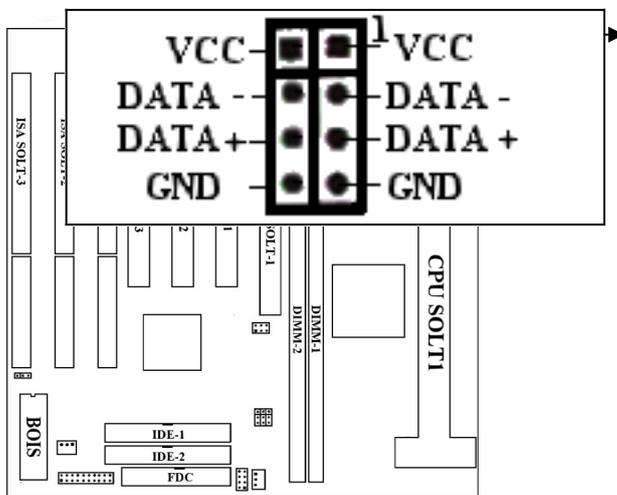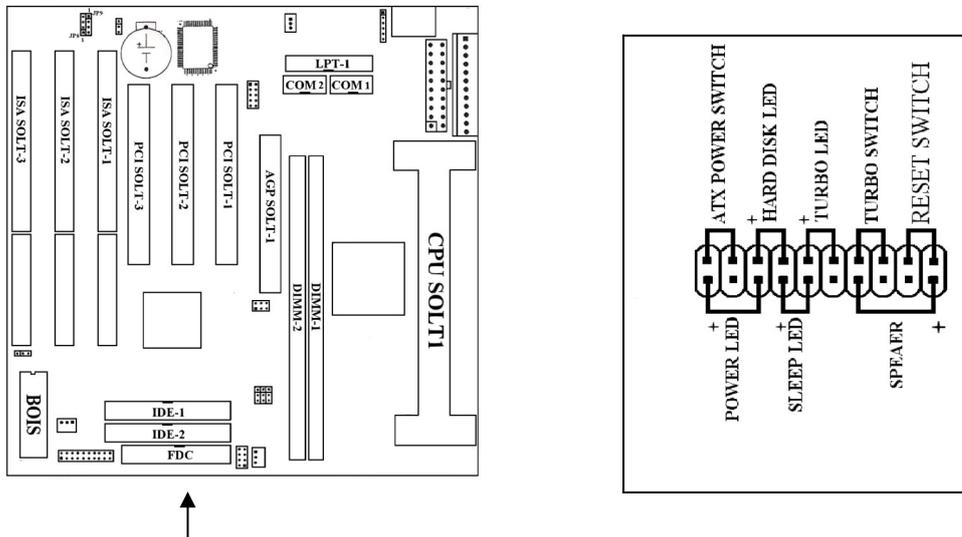

2.8 SB_LINK Connector : CN4

The Mainboard Provides A Distributed DMA Connector For PCI Sound Card With This Feature Such As Creative PCI 3D Sound Card . The Connector Location And Pin Definition Are Shown Below
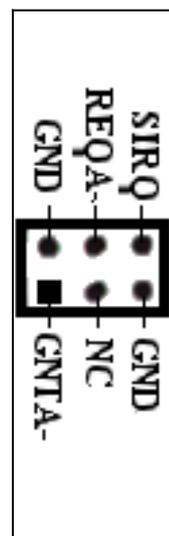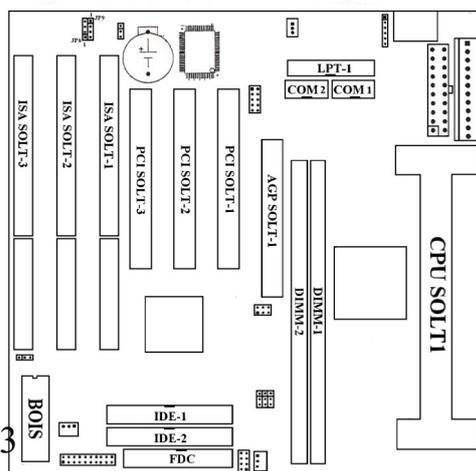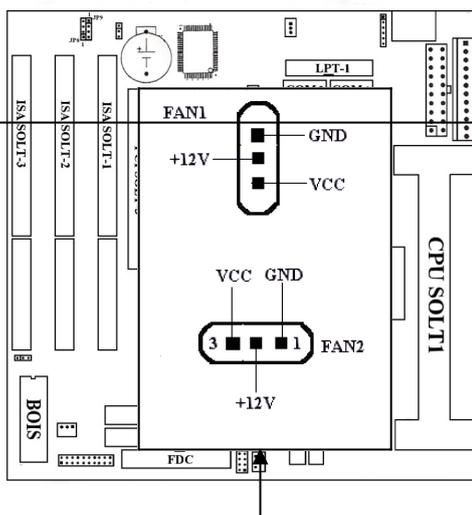
2.9 Front Panel Of Case Connector : CN5

The Mainboard Provides Connector For FRONT PANEL OF CASE . The Connector Location And Pin Defunition Are Shown Below :
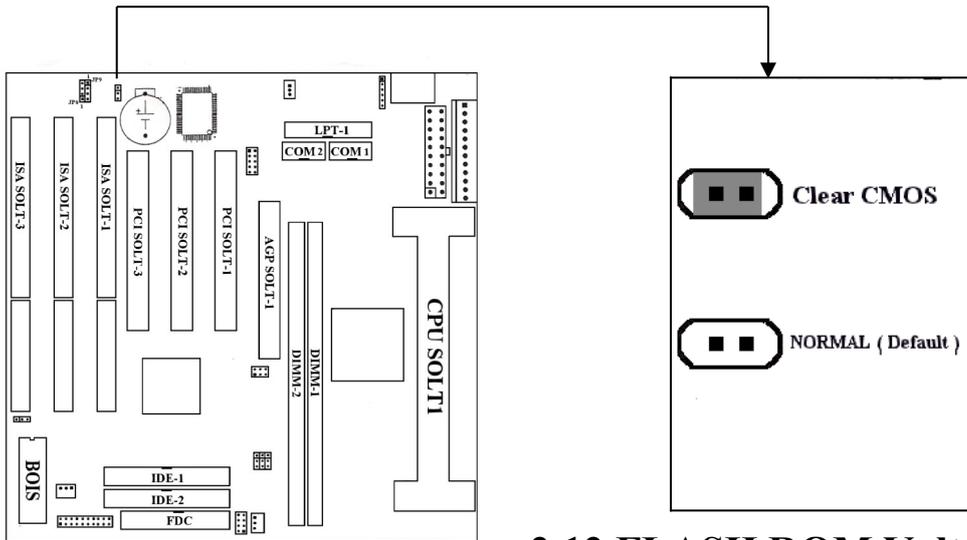

2.10 FANT1 . FAN2 POWER CONNECTOR : FAN1 . FAN2

The Mainboard Provides Two FAN Power Connector That Give User Optional . The Connector Location And Pin Definition Are Shown Below :
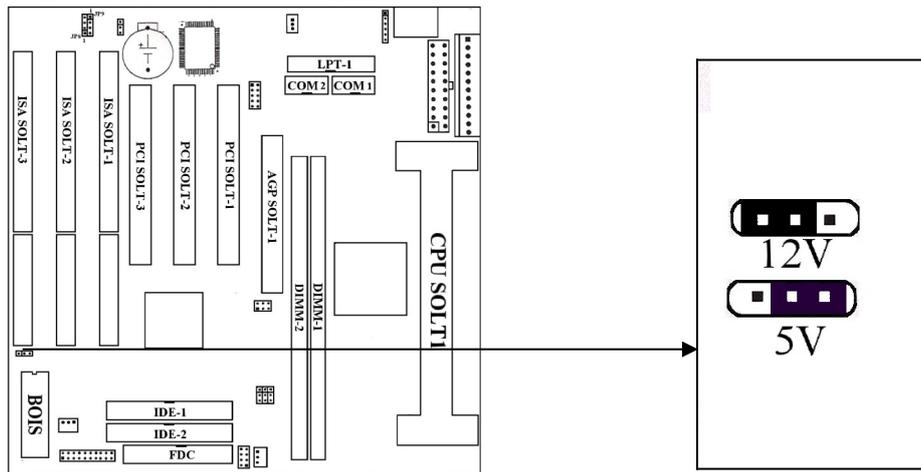

2.11 CMOS Clear Jumper Setting : JP1

The Mainboard Provides a CMOS Clear Jumper
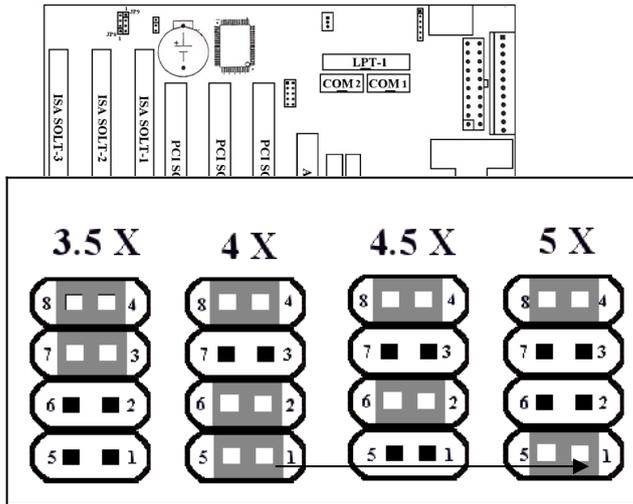
3

2.12 FLASH ROM Voltage Jumper Setting : JP2

the mainboard provides a FLASH ROM Voltage Jumper


2.13 CPU CLOCK CPU RATIO Jumper Setting : (JP6)

**(1) PCB Layout And Relevant Position For CPU RATIO**

| 3.5 X | 4 X | 4.5 X | 5 X |

(2) CPU RATIO (JP6)

Product Name	CPU SPEED (MHZ)	BUS CLK (MHZ)	JP6 CONNECT	Multiplier
PENTIUM II - 233	233	66		3.5X
PENTIUM II - 266	266	66		4X
PENTIUM II -300	300	66		4.5X
PENTIUM II - 333	333	66		5X

 # The Jumper Settings Are The Same Between Celeron Processor And Pentium II Processor When They Are Working At 233-333 Mhz Of CPU SPEED.

(1)

3
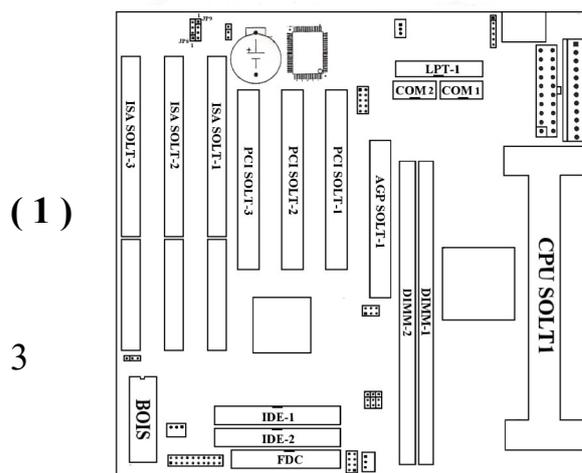
2.14 SUPPORT 168 PIN DIMM X 2 FOR SDRAM

PCB Layout And Relevant Position For DIMM X 2

DIMM-2 (3.3V SDRAM)　　DIMM-1 (3.3V SDRAM)
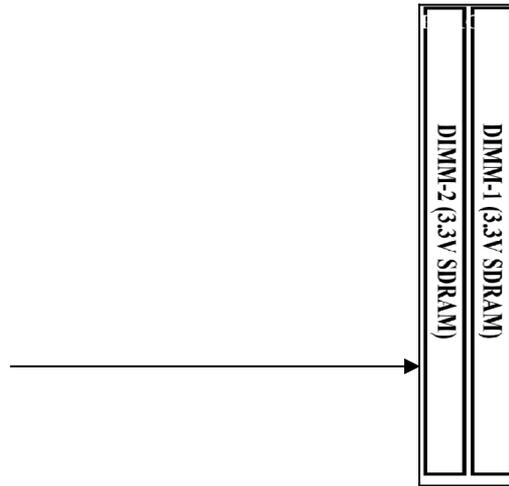
(2) The Supports Different Type Of Settings For The System Memory . There Is No Jumper Nor Connector Needed For Memory Configuratinon . Following Figures Provides All Possible Memory Cominations .

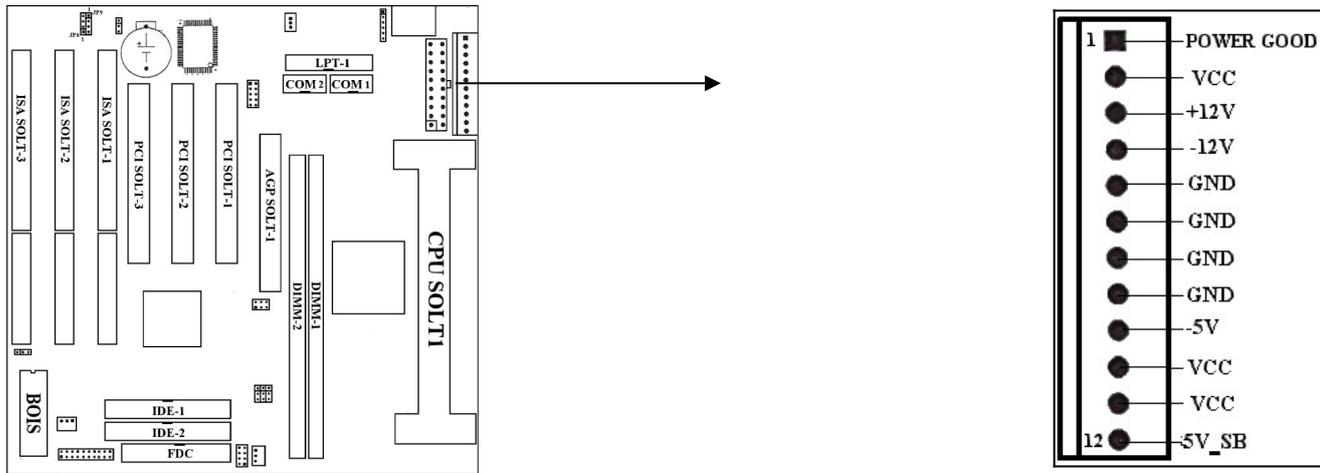| SRAM		STATUS
BANK1(DIMM2)	BANK0(DIMM1)	
NONE	INSTALLED	OK
INSTALLED	NONE	OK
INSTALLED	INSTALLED	OK

NOTE :
**1 . SDRAM Module Specification : 3.3 V ONLY**

2.2 POWER SUPPLY

2.2-1 AT 12PIN: POWER CONNECTOR:PW1

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The mainboard provides one 12-pin power supply connector for at. the connector location and pin definition are shown below:

2.2-2 ATX 20-PIN POWER CONNECTOR:PW2

The mainboard provides one 12-pin power supply connector for atx. using the atx power supply functions such as modem ring wak-up and soft power off are supported by this matnboard. this power connector supports instant power on function which means that system will boot up instantly when the power connector is inserted onboard. the connector location and pin definition are shown below :
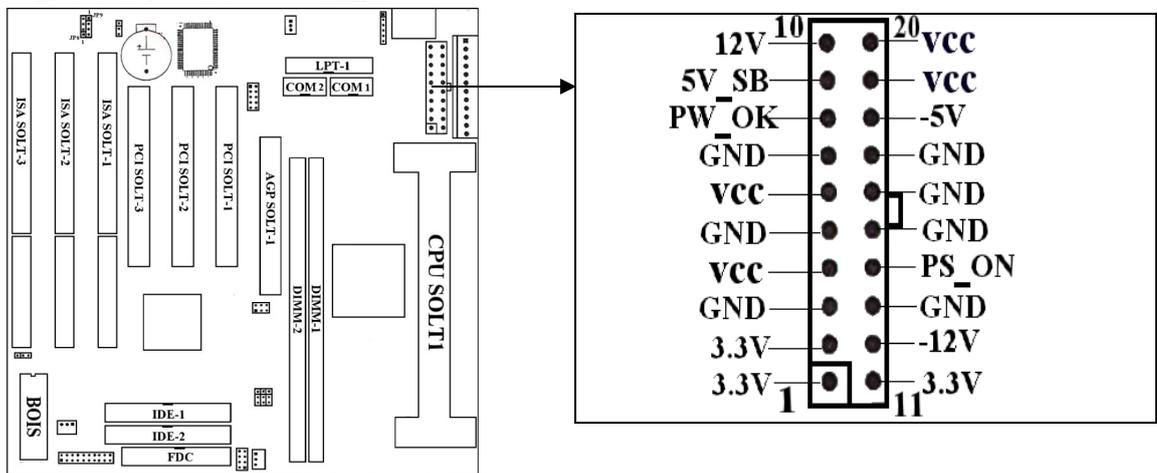
WARNING: Since The Mainboard Has The Instant Power On Function. Make Sure That All Components Are Installed Properly Before Inserting The Power Connector To Ensure That No Damage Will Be Done

2.3 KEYBOARD CONNECTOR : KB1

The Mainboard Provides One 5-Pin Keyboard Connector For At. The Connector Location And Pin Definition Shown
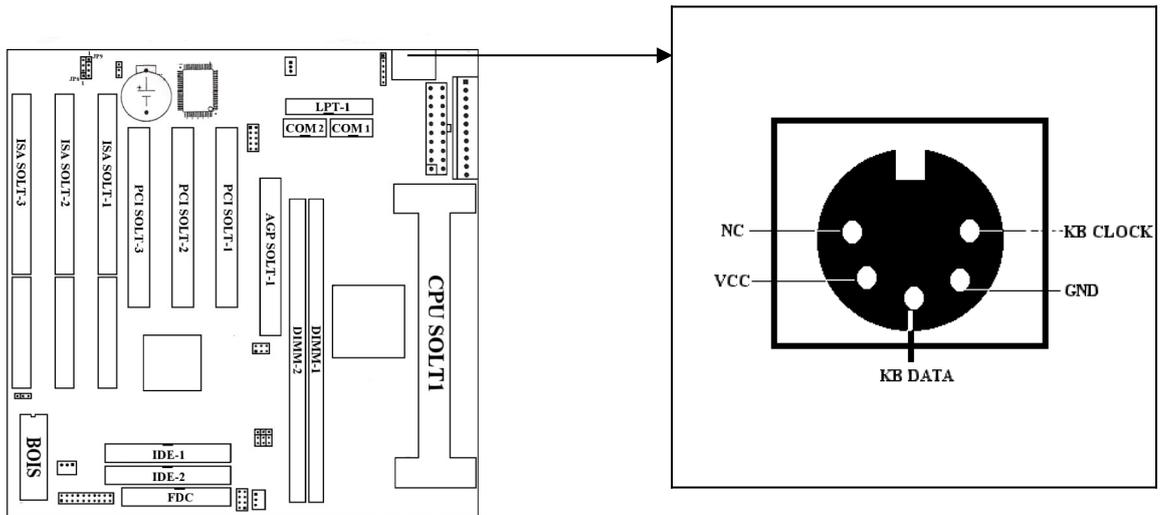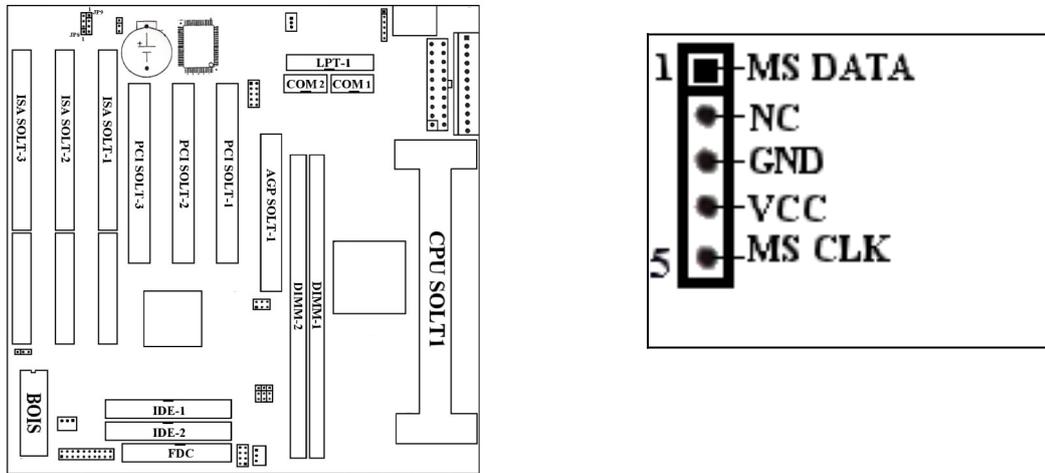

Below :

2.4 IRDA Infrared Module Connector : IR1

The Mainboard Provides One 10-Pin Infrared (Ir) Connector For Ir Modules . This Connector Is For Optional Wireless Transmitting And Receiving Infrared Module . You Must Configure The Setting Through The Bios Setup To Use The Ir Function . Fir And Consumer Ir Are Reserved Functions . The Connector Location And Pin Definition Are Shown Below :
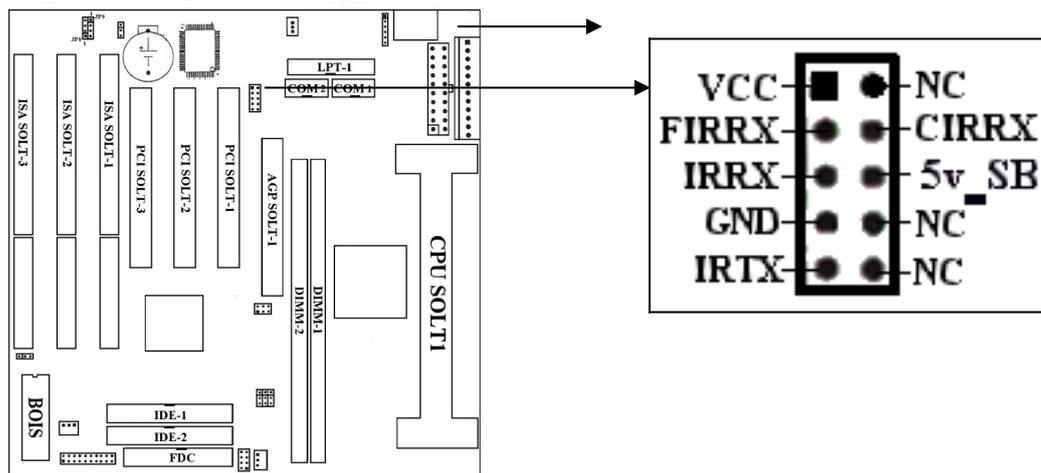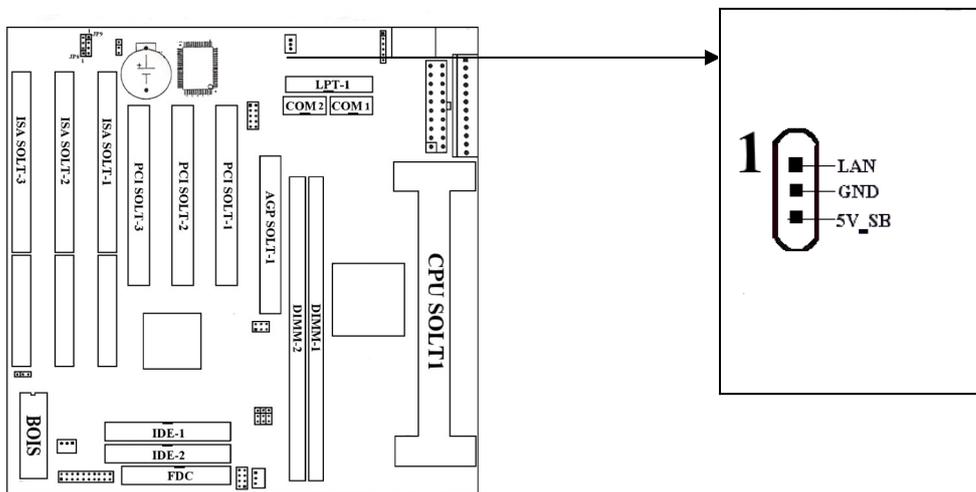

2.5 PS/2 Mouse Connector: CN1

The Mainboard Provides A Standard Ps/2 Mouse Mini Din Connector For Attaching A Ps/2 Mouse. You Can Plug A Ps/2 Mouse Directly Into This Connector.The Connector Location And Pin Definition Are Shown Below:

2.6 LAN (WAKE ON LAN) Connector : CN2

The Mainboard Provides A Standard Lan Connector For Network Card With This Feature . The Connector Location And Pin Definition Are Shown Below :

2.1 Mainboard Layout And Connectors & Jumper

CN3:USB

CN2:WAKE ON LAN

KB1:KEYBOARD

JP1:CMOS CLEAR

CN1:PS/2 MOUSE

IR1:INFRARED

JP9

JP8

LPT-1

COM 2   COM 1

ISA SOLT-3

ISA SOLT-2

ISA SOLT-1

PCI SOLT-3

PCI SOLT-2

PCI SOLT-1

AGP SOLT-1

DIMM-2

DIMM-1

CPU SOLT1

BOIS

IDE-1

IDE-2

FDC

.

3