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# User's Manual

## Single Board Computer 3308080

Version 1.1, February 2007

# *Table of Content*

# Chapter 1
# General Information

## 1.1 Product Feature

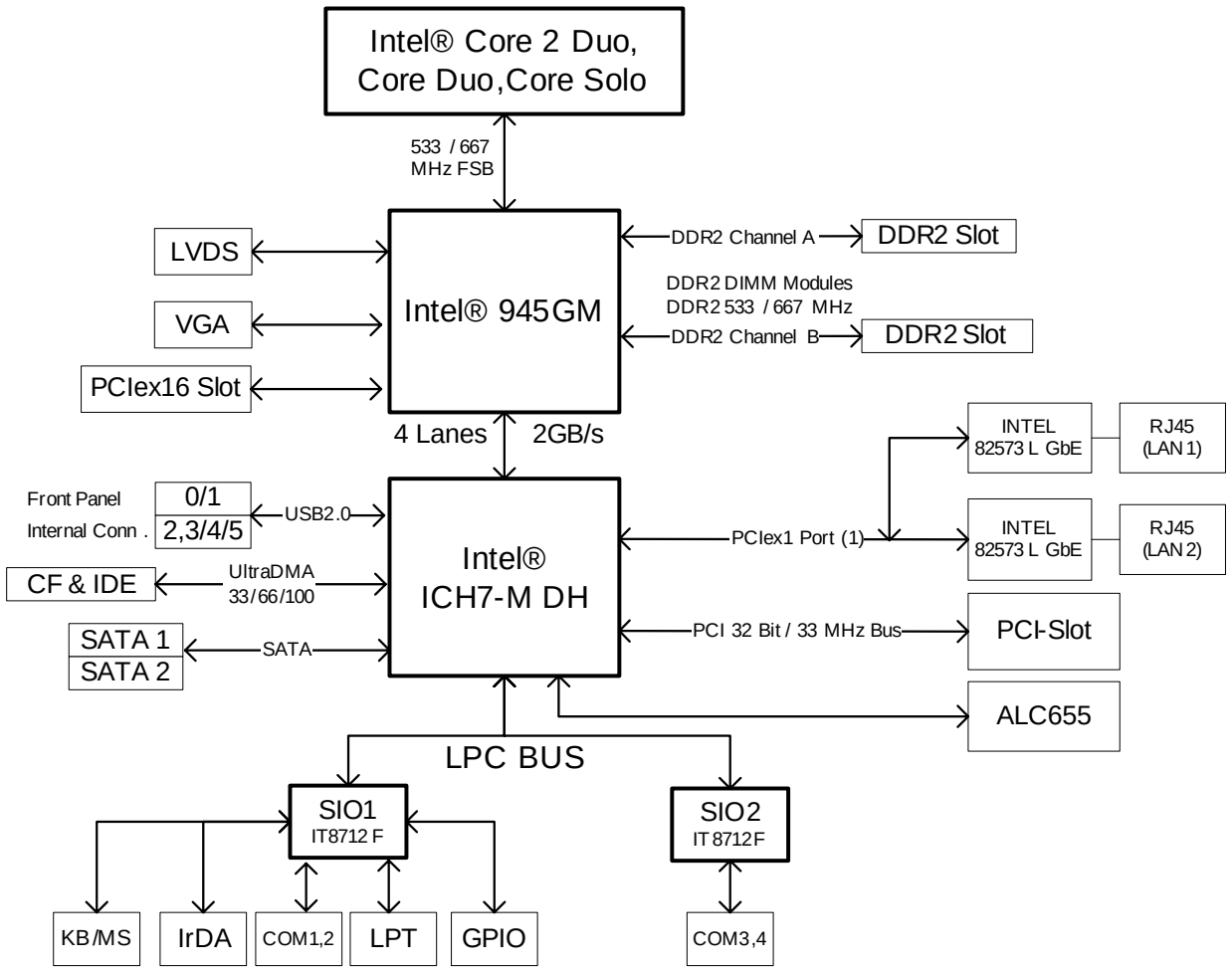
- Intel Core Solo & Core Duo and Core 2 Duo Processor Family support
- Intel 945GM Chipsets
- Two 240-pin DDR2 DIMM Socket support un-buffered non-ECC DDR2 400/533/667 up to 4GB
- Intel 82573L PCI Express Gigabit LAN X 2
- Support LVDS /VGA Display and one x16 PCI Express slot
- CompactFlash Socket

## Product Overview:

3308080 is a 5.25" embedded board featuring Intel Core Solo, Core Duo and Core 2 Duo processor with 533/667 MHz FSB; speed up to 2.33 (2.0) GHz.

The 3308080 offers high performance and various processors and PCI Express; versatile display and I/O port selections, which is the best solution for advanced embedded applications.

## Block Diagram:



## 1.2 Specification:

| General | |
|---|---|
| **CPU** | ● Intel® Core Solo and Core Duo family processors<br>● Core 2 Duo family CPU (optional) |
| **Front Side Bus** | ● 533/667 MHz |
| **Chipset** | ● Intel 945GM and ICH7-M DH |
| **Memory** | ● 2 x 240-pin DDR2 DIMM socket, up to 4GB un-buffered non-ECC DDR2 533/667 SDRAM |
| **Super I/O** | ● ITE 8712F |
| **BIOS** | ● Award system BIOS<br>● Plug & Play support<br>● Advanced Power Management and Advanced Configuration & Power Interface support<br>● 4M bits flash ROM |
| **Expansion interface** | ● 1 x PCI Slot<br>● 1 x PCI Express x 16 Slot |
| **Dimensions (Lx W) mm/inch** | ● 203mm(L) x 143mm(W) |
| **System Management** | |
| **Watchdog Timer** | ● 1 minute increments from 1 to 255 minutes<br>● 1 second increments from 1 to 255 seconds<br>● Tolerance 15% under room temperature 25°C |
| **Monitoring** | ● Derived from Super IO to support system monitor.<br>● Monitoring of 5 voltages, 3 temperature and 3 fans Speed.<br>5 voltage (For +3.3V, +5V, +12V, Vcore and +2.5V)<br>3 Temperatures (CPU, two external Temperature Sensor)<br>3 FANs speed (CPU and System FANs) |
| **Display** | |
| **Chipset** | ● Intel® 945GM integrated graphics solution w/ Intel® Extreme Graphics 2 technology |
| **Display Memory** | ● Up to 64 MB of dynamic video memory allocation |
| **Display interface and Resolution** | ● CRT- Analog Display Support<br>● Drive a standard progressive scan analog monitor with pixel resolution up to 1400 x 1050 |
| | ● LVDS - LFP (local flat panel) LVDS interface<br>● Single- or dual-pixel LVDS panel support |
| | ● CCFL x1 for LCD Panel Backlight Inverter Power<br>Pin 2,3 support 12VDC power source for inverter:<br>Max. 12VDC@2A for each |
| **Ethernet** | |
| **Controller** | ● Intel® 82573L PCI Express Gigabit Ethernet Controller x 2 supporting two GbE LAN ports<br>● Support Boot From LAN (PXE)<br>● Support Wake on LAN (When 5Vsb power available). (LAN1 only) |
| **Interface** | ● 2 x RJ45 with LED connecter |
| **LED** | ● Active, Link 100, and 1000 LAN LED<br>● LAN Status LED defined:<br>10: LED Off / 100: Green LED / 1000: Orange LED<br>● Extra (External) LED: 2 x 4 pin header |

| | |
|---|---|
| **Audio** | |
| **AC97 Audio CODEC** | ● Realtek RTL655 CODEC for AC97 v2.1 CODEC<br>● Line in with pin header<br>● Microphone in and Speaker out Interface |
| **I/O Interface** | |
| **USB 2.0** | ● 6 x USB 2.0 port (2 on front, 4 on Board by one 2.0 mm JST Connectors), bandwidth: 480 Mb/s |
| **Serial ports** | ● SIO× 4, support RS-232 with pin headers<br>● 1 x3-pin jumper to switch 5V and 12V power source |
| **Parallel ports** | ● 1 x Box header 26-pin connector |
| **PS/2** | ● 1 x PS/2 connector for Keyboard and Mouse |
| **GPIO** | ● 8 GPIO lines via header (GPI 0~3 and GPO 0~3); GPO0 and GPO1 could be connected to LED for programmable feature<br>● TTL Level (0/5V) |
| **FAN** | ● 1x 4-pin FAN JST connector (for CPU)<br>● 2x 3-pin FAN connector x 2 (for System) |
| **IrDA** | On board pin header for IrDA Tx Rx |
| **Others** | ● On Board buzzer<br>● Power LED/HDD Power LED<br>● SMBus 2.0 controller (2 pin header)<br>● On board 2 pin header for reset (for power on button switch) |
| **On-board RTC** | |
| | ● On-chip RTC with battery back up<br>● External Lithium battery x 1<br>● RTC Tolerance less than 2sec (24 hours) under 25˚C environment |
| **Storage Support** | |
| **CF** | ● 1x Internal CompactFlash socket<br>● Support One Type I& II Compact Flash Card (Primary Master) |
| **SATA** | ● 2 x SATA ports, support Raid 0,1, bandwidth: 150 MB/s |
| **IDE** | ● 1 x 44-pin IDE connector |
| **Disk on Module** | ● 1 x 2-pin Jst power (+5V,GND ) for DOM |
| **Power Supply** | |
| **Type** | ● Support both AT and ATX Mode<br>● Factory default setting is AT mode |
| **ATX mode** | ● +5V / -5V / 5Vsb Power In (+12V/-12V for PC 104 plus)<br>● When Change to ATX Mode, the BIOS default setting is as follow:<br>POWER -SUPPLY TYPE ➔ [ATX]<br>AUTO PWR-FAILURE RESUME ➔ [ON] |
| **AT mode** | ● +5V Power in<br>● No Power On push Button, Software Shutdown function and LAN remote wake up |
| **Power consumption** | 43.2 W in 12V, 121.2 W in 5V, and 11.5W in 5Vsb |
| **Environment** | |
| **Operating Temperature** | 0°C ~ 60°C |
| **Storage Temperature** | -20˚C to 85˚C |
| **Relative Humidity** | ● Operating 10%~90%, non-condensing<br>● Non-operating 5%~95%, non-condensing |
| **Certifications** | |
| | CE approval<br>FCC Class A |

## Ordering Information:

| | |
|---|---|
| **3308080** | 5.25” Embedded Board supporting Intel Core Solo, Core Duo and Core 2 Duo CPU w/VGA/ Dual LVDS/Audio/4 COMs/6 USB2.0 /Dual Gigabit LAN |

## *1.3 Power Consumption Measurement*

| | | | | | |
|---|---|---|---|---|---|
| *Model :* | 3308080 | | | *PCB Ver :* | *B* |
| *In Date :* | *09/06/2006* | *Out Date :* | *09/25/2006* | *BIOS Ver :* | *C-002* |
| *In Time :* | *14:41* | *Out Time :* | *10:46* | *Testing Result* | *Pass* |

*Test Environment*

| | |
|---|---|
| *Operating System* | *<English>Windows XP-Professional-5.01.2600+SP2* |
| *Processor* | *Intel Pentium-M 2.0GHz/667MHz/ Core Duo T2500* |
| | *Intel Pentium-M 2.16GHz/667MHz/ Core Duo T2600* |
| | *Intel Pentium-M 2.17GHz/667MHz/ Core 2 Duo T7400 (Engineer Sample)* |
| *Memory* | *Kingston hynix HY5PS12821 512MB/DDRII-533/Non-ECC x 2* |
| | *UNIGE ELPIDA E5108AG-6E-E 1GB/DDRII-667/Non-ECC x 2* |
| *IDE HDD Device Type* | *HITACHI HTS541040G9AT00 40GB/ATA100/5400RPM* |
| *S-ATA HDD Device Type* | *HITACHI HTS541040G9SA00 40GB/ATA100/5400RPM x 2* |
| *Floppy Device Type* | *TEAC USB-FS3502* |
| *CD-ROM Device Type* | *Quanta SCR-242* |
| *PCI SCSI Card* | *Tekram DC-395UW* |
| *SCSI HDD Device Type* | *Seagate ST39205LW* |
| *USB Floppy Device Type* | *TEAC USB-F3502* |
| *USB HDD Device Type* | *IBM DARA-20600 6GB/ATA-66/4200RPM* |
| | *HITACHI HTS424040M9AT00 40GB/ATA100/4200rpm* |
| *USB Flash Device Type* | *ADATA 512MB* |
| | *Transcend JF110 256MB* |
| *USB CD-ROM Device Type* | *ASUS CRW-4012A-U* |
| *Power Supply* | *Seventeam ST-300BLV 300W* |
| *Monitor* | *LEMEL M780* |

Power Supply Type： Seventeam ST-300BLV 300W

CPU Type: Intel Pentium-M 2.0GHz/667MHz/ Core Duo T2500

| Low AC Line 110~115V: (System-Only) | +12V | +5V | 3.3V | 5VSB |
|---|---|---|---|---|
| Full-Loading Mode (A) | 4.66 (A) | 5.85 (A) | 0.21 (A) | 0.22 (A) |
| Light-Loading Mode (A) | 0.53 (A) | 2.90 (A) | 0.19 (A) | 0.20 (A) |
| Standby Mode (HDD Drive Power-Down) (A) | 0.76 (A) | 1.84 (A) | 0.20 (A) | 0.19 (A) |
| Suspend Mode (S4) | 0.20 (A) | 0.20 (A) | 0.19 (A) | 0.36 (A) |

Power Supply Type： Seventeam ST-300BLV 300W

CPU Type: Intel Pentium-M 2.16GHz/667MHz/ Core Duo T2600

| Low AC Line 110~115V: (System-Only) | +12V | +5V | 3.3V | 5VSB |
|---|---|---|---|---|
| Full-Loading Mode (A) | 4.46 (A) | 5.35 (A) | 0.19(A) | 0.20(A) |
| Light-Loading Mode (A) | 1.11(A) | 2.96(A) | 0.22(A) | 0.22 (A) |
| Standby Mode (HDD Drive Power-Down) (A) | 0.96 (A) | 1.73 (A) | 0.21 (A) | 0.20 (A) |
| Suspend Mode (S4) | 0.22 (A) | 0.22 (A) | 0.23 (A) | 0.38 (A) |

Power Supply Type： Seventeam ST-300BLV 300W

CPU Type: Intel Pentium-M 2.17GHz/667MHz/ Core Duo T7400

| Low AC Line 110~115V: (System-Only) | +12V | +5V | 3.3V | 5VSB |
|---|---|---|---|---|
| Full-Loading Mode (A) | 3.25 (A) | 4.97 (A) | 0.03 (A) | 0.02 (A) |
| Light-Loading Mode (A) | 0.40 (A) | 2.97 (A) | 0.03 (A) | 0.03 (A) |
| Standby Mode (HDD Drive Power-Down) (A) | 0.39 (A) | 2.60 (A) | 0.01 (A) | 0.06 (A) |
| Suspend Mode (S4) | 0.03 (A) | 0.05 (A) | 0.01 (A) | 0.11 (A) |

The Data is based on fully possible configurations installed on 3308080 include the Add-on Card, and peripherals such as USB devices, SCSI Card and SCSI HDD.

**Test Criteria:**

**1. Test configuration is include 3308080, HDD, CD-ROM, and FDD.**

**2. Full loading mode should utilize CPU 100% with run Burn-in test program.**

**3. Light loading mode will utilize CPU loading below 5%, and there is no data or application running.**

## 1.4 Board Layout

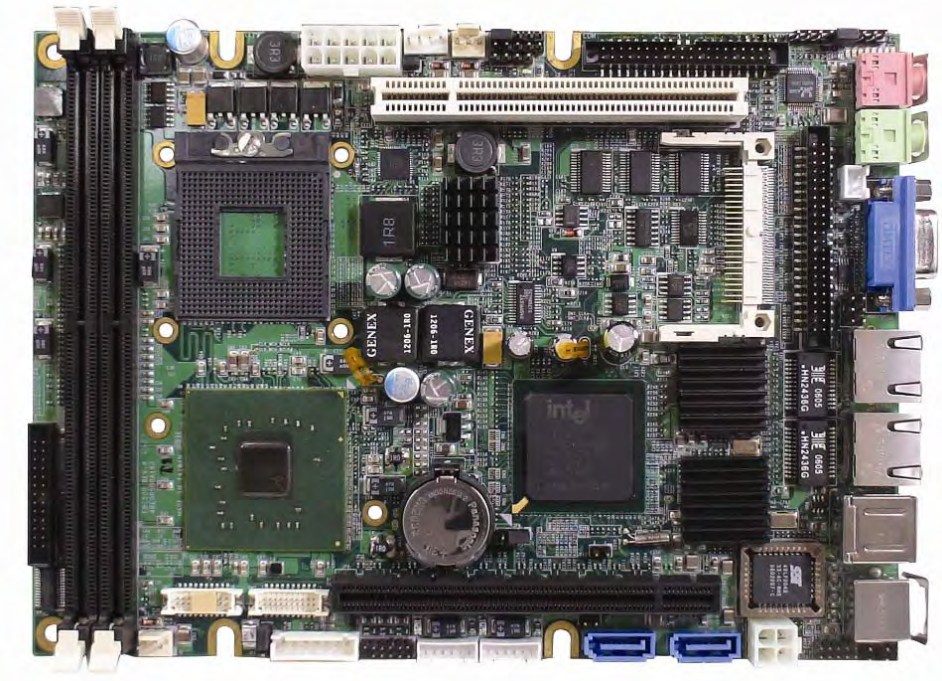


**Figure 1.2: Overview**

## 1.5 Board Dimensions

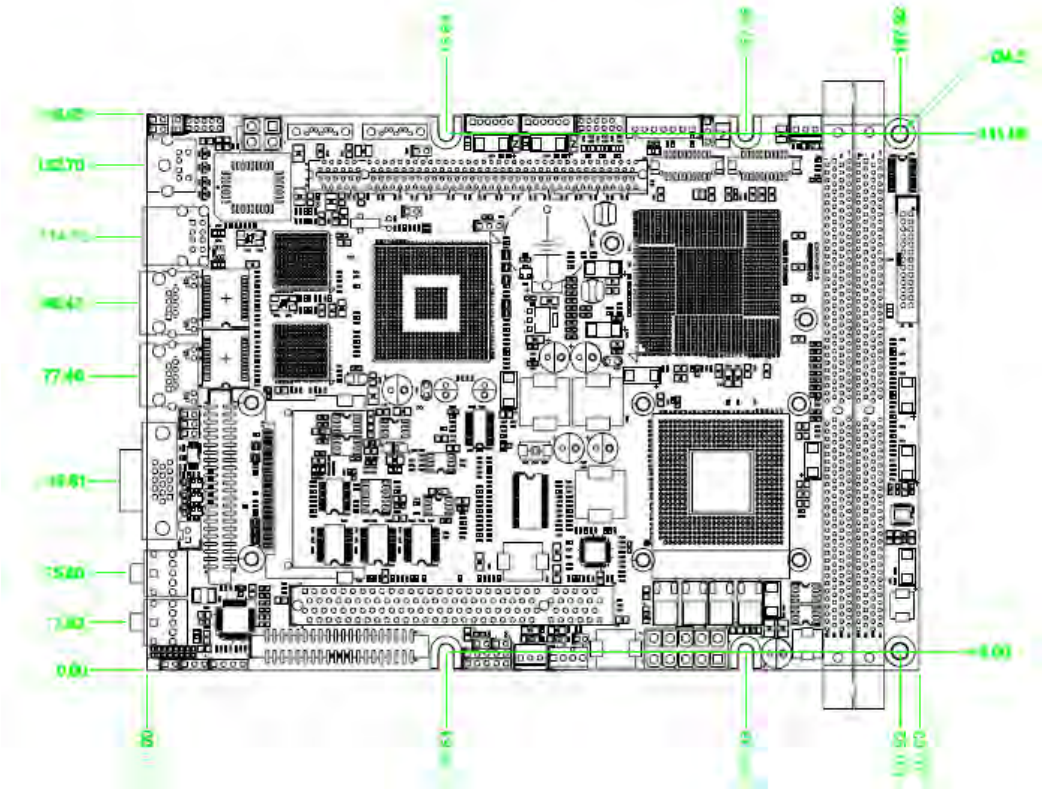


**Figure 1.3: Mechanical Drawing**

# Chapter 2
# Jumper Setting

This chapter of the User's Manual describes how to set jumpers.

***Note: The procedures that follow are generic for all 3308080 series.***

## 2.1 Before You Begin

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A set of jewelers Screwdrivers
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environment tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

## 2.2 Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity.
Working on the computers that are still connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to your computer or yourself:

- Always disconnect the unit from the power outlet whenever you are working inside the case.
- If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards (such as the 3308080 board) by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit

board.

- Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- Use correct screws and do not over tighten screws.

## 2.3 Setting Jumpers

A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN. Please see the following illustrations

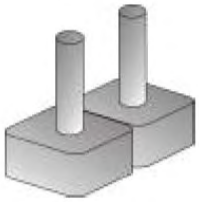
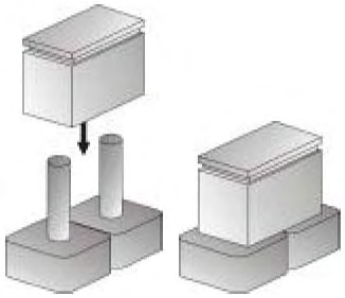
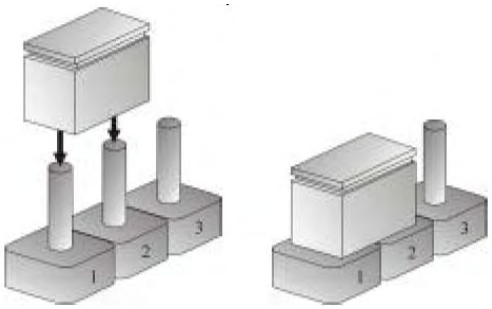
<table>
<tr><td rowspan="2">The illustrations on the right show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.</td><td>  </td><td>  </td></tr>
<tr><td>Open (Off)</td><td>Short (On)</td></tr>
<tr><td>These illustrations show a 3-pin jumper. Pins 1 and 2 are SHORT.</td><td colspan="2"> 
</td></tr>
</table>

**Table 2-1: Setting Jumpers**

## 2.4 Location of Jumpers

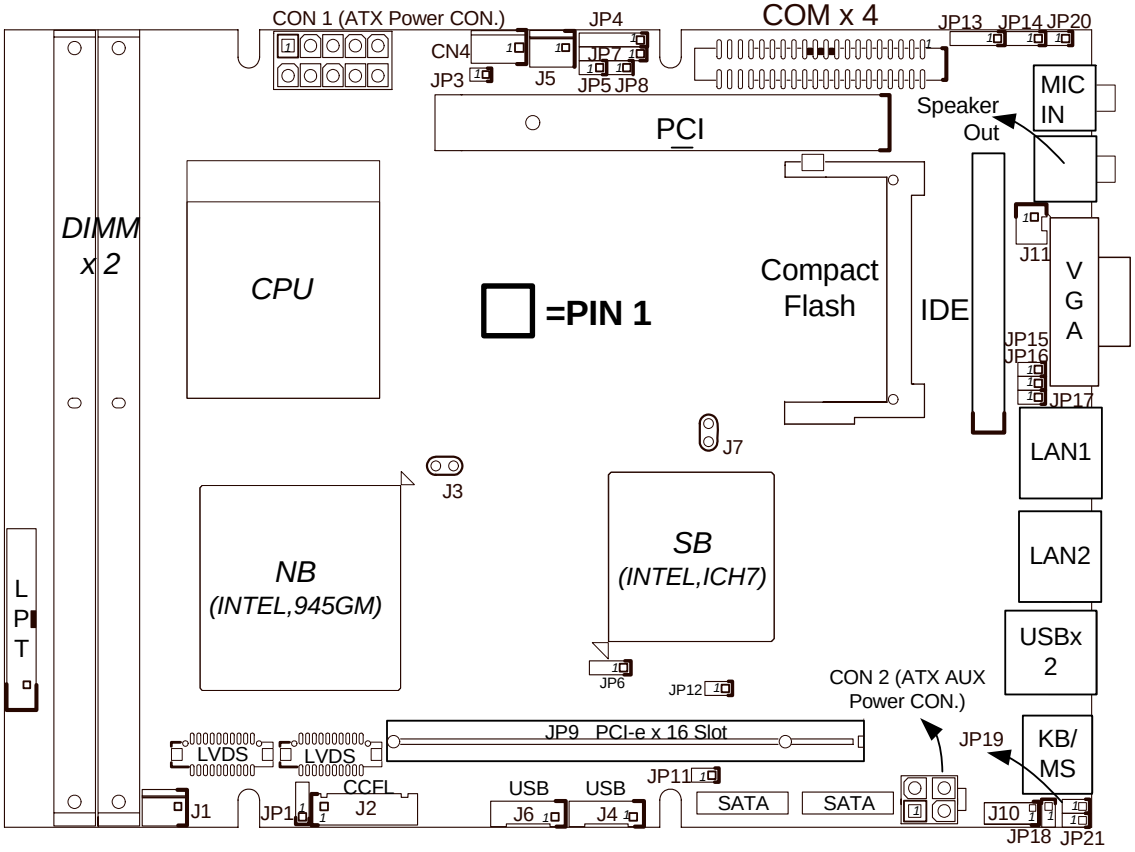


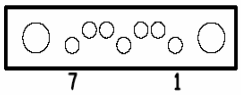

**Figure 2-1: Jumper Location**

## 2.5 Functions of Jumpers and Connectors

- **SATA1/SATA0 connector (J8, J9)**

  A . Connector size : 7 Pin , 1.27mm ,180°, SATA Connector

  B . Connector location



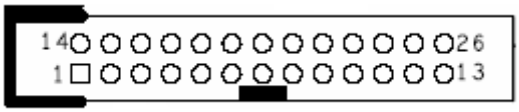

C. Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | GND | 5 | SATA_RXN |
| 2 | SATA_TXP | 6 | SATA_RXP |
| 3 | SATA_TXN | 7 | GND |
| 4 | GND | | |

- **PIO Connector (CN1)**

  A . Connector size : 2 X 13 = 26 Pin ,2.0 mm, 180° ,BOX Header

  B . Connector location



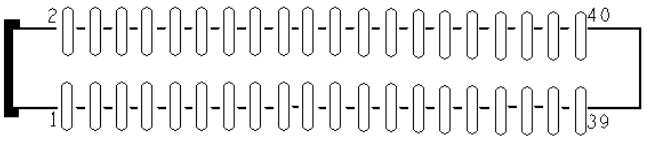

  C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | Line Print Strobe | 14 | Auto Feed# |
| 2 | Parallel Data 0 | 15 | Error# |
| 3 | Parallel Data 1 | 16 | Initialize# |
| 4 | Parallel Data 2 | 17 | Select Input# |
| 5 | Parallel Data 3 | 18 | GND |
| 6 | Parallel Data 4 | 19 | GND |
| 7 | Parallel Data 5 | 20 | GND |
| 8 | Parallel Data 6 | 21 | GND |
| 9 | Parallel Data 7 | 22 | GND |
| 10 | Acknowledge# | 23 | GND |
| 11 | Busy | 24 | GND |
| 12 | Paper empty | 25 | GND |
| 13 | Select | 26 | NC |

- **SIO Connector (CN6)**

  A . Connector size:  2 X 20 = 40 Pin ,2.0 mm, 180° ,BOX Header

  B . Connector location




  C . Connector pin definition

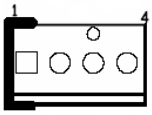
| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | DCD1 | 21 | DCD3 |
| 2 | DSR1 | 22 | DSR3 |
| 3 | RXD1 | 23 | RXD3 |

| | | | |
|---|---|---|---|
| 4 | RTS1 | 24 | RTS3 |
| 5 | TXD1 | 25 | TXD3 |
| 6 | CTS1 | 26 | CTS3 |
| 7 | DTR1 | 27 | DTR3 |
| 8 | RI1 | 28 | RI3 |
| 9 | GND | 29 | GND |
| 10 | NC | 30 | NC |
| 11 | DCD2 | 31 | DCD4 |
| 12 | DSR2 | 32 | DSR4 |
| 13 | RXD2 | 33 | RXD4 |
| 14 | RTS2 | 34 | RTS4 |
| 15 | TXD2 | 35 | TXD4 |
| 16 | CTS2 | 36 | CTS4 |
| 17 | DTR2 | 37 | DTR4 |
| 18 | RI2 | 38 | RI4 |
| 19 | GND | 39 | GND |
| 20 | NC | 40 | NC |

## CPU FAN Connector(CN4)

A . Connector size : 1 X 4 = 4 Pin , 2.54mm ,180°, FAN Connector

B . Connector location



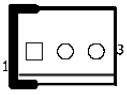

C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | GND | 3 | Sense |
| 2 | +12V | 4 | NC |

## SYSTEM FAN1/FAN2 Connector(J1 , J5)

A . Connector size : 1 X 3 = 3 Pin , 2.54mm ,180°, FAN Connector

B . Connector location



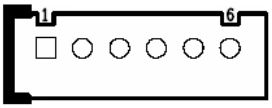

C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | GND | 3 | Sense |
| 2 | +12V | | |

- **USB 2.0 , 0/1/4/5 Connector (J4 , J6 )**

A . Connector size : 1 X 6 = 6 Pin , 2.0mm ,180°, JST Connector

B . Connector location



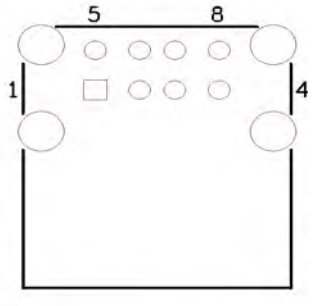

C .Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5VSB | 4 | Data 1-/Data 5- |
| 2 | Data 0-/Data 4- | 5 | Data 1+/Data 5+ |
| 3 | Data 0+/Data 4+ | 6 | GND |

- **USB 2.0 , 2/3 Connector (CN9)**

A . Connector size : 1 X 6 = 6 Pin , 15.2x16.8x17mm, 90°, FEMALE

B . Connector location




C .Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5VSB | 5 | +5VSB |
| 2 | Data 2- | 6 | Data 3- |
| 3 | Data 2+ | 7 | Data 3+ |
| 4 | GND | 8 | GND |

## IDE Connector Primary (CN8)

A . Connector size : 2 x 22 = 44pins,2.0mm, 180°,BOX Header

B . Connector location

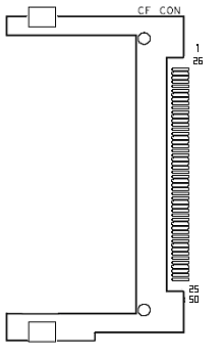

C. Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | Reset# | 23 | IOW# |
| 2 | GND | 24 | GND |
| 3 | Data 7 | 25 | IOR# |
| 4 | Data 8 | 26 | GND |
| 5 | Data 6 | 27 | IOCHRDY |
| 6 | Data 9 | 28 | GND |
| 7 | Data 5 | 29 | DMA ACK# |
| 8 | Data 10 | 30 | GND |
| 9 | Data 4 | 31 | Interrupt |
| 10 | Data 11 | 32 | NC |
| 11 | Data 3 | 33 | DiskAddress 1 |
| 12 | Data 12 | 34 | DMA66 Detect |
| 13 | Data 2 | 35 | DiskAddress 0 |
| 14 | Data 13 | 36 | DiskAddress 2 |
| 15 | Data 1 | 37 | HDCCS1# |
| 16 | Data 14 | 38 | HDCCS3# |
| 17 | Data 0 | 39 | HDD Active # |
| 18 | Data 15 | 40 | GND |
| 19 | GND | 41 | +5V |
| 20 | NC | 42 | +5V |
| 21 | DMA REQ | 43 | GND |
| 22 | GND | 44 | GND |

## Compact Flash Connector (CN7)

A . Connector size : Compact Flash Socket 50 Pin Connector

B . Connector location




C . Connector pin definition

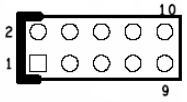
| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | GND | 26 | GND |
| 2 | Data 3 | 27 | Data 11 |
| 3 | Data 4 | 28 | Data 12 |
| 4 | Data 5 | 29 | Data 13 |
| 5 | Data 6 | 30 | Data 14 |
| 6 | Data 7 | 31 | Data 15 |
| 7 | HDCCS1# | 32 | HDCCS3# |
| 8 | GND | 33 | N/C |
| 9 | GND | 34 | IOR# |
| 10 | GND | 35 | IOW# |
| 11 | GND | 36 | +5V |
| 12 | GND | 37 | Interrupt |
| 13 | +5V | 38 | +5V |
| 14 | GND | 39 | CF_CSEL# |
| 15 | GND | 40 | NC |
| 16 | GND | 41 | Reset# |
| 17 | GND | 42 | IOCHRDY |
| 18 | Disk Address 2 | 43 | DMA REQ |
| 19 | Disk Address 1 | 44 | DMA ACK# |
| 20 | Disk Address 0 | 45 | HDD Active# |
| 21 | Data 0 | 46 | DMA66 Dectec |
| 22 | Data 1 | 47 | Data 8 |

| | | | |
|---|---|---|---|
| 23 | Data 2 | 48 | Data 9 |
| 24 | NC | 49 | Data 10 |
| 25 | GND | 50 | GND |

- **GPIO (J10)**

A . Connector size : 2X5 = 10 PIN , 2.0mm , 180° , PIN Header

B . Connector location




C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5V | 6 | GP25_D_OUT1(PIN22) |
| 2 | GND | 7 | GP22_D_IN2(PIN25) |
| 3 | GP20_D_IN0(PIN27) | 8 | GP26_D_OUT2(PIN21) |
| 4 | GP24_D_OUT0(PIN23) | 9 | GP23_D_IN3(PIN24) |
| 5 | GP21_D_IN1(PIN26) | 10 | GP27_D_OUT3(PIN20) |

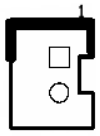
*Digital I/O Used Port 801

| **Output** | | **Input** | |
|---|---|---|---|
| O0 | GP24_D_OUT0(PIN23) | I0 | GP20_D_IN0(PIN27) |
| O1 | GP25_D_OUT1(PIN22) | I1 | GP21_D_IN1(PIN26) |
| O2 | GP26_D_OUT2(PIN21) | I2 | GP22_D_IN2(PIN25) |
| O3 | GP27_D_OUT3(PIN20) | I3 | GP23_D_IN3(PIN24) |

- **Disk On Module External Power (J11)**

A . Connector size : 1X2 = 2 PIN , 2.5mm , 180°, JST Connector

B . Connector location




C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5V | 2 | GND |

- **82573L LAN1 / LAN2 LINK 100LED(JP15 /JP21)**

A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

B . Connector location


C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +3VSB | 2 | Speed100# |

- **82573L LAN1 /LAN2 LINK 1000LED (JP17/JP19)**

  A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C .Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +3VSB | 2 | Speed1000# |

- **82573L LAN1 / LAN2 Activity LED (JP16/JP18)**

  A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C .Connector pin definition

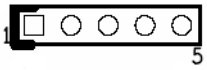
| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +3VSB | 2 | Activity# |

- **IR (JP7)**

  A . Connector size : 1X5 = 5 PIN , 2.54mm , 180°, PIN Header

  B . Connector location

  C .Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5V | 4 | GND |
| 2 | CIRRX | 5 | IRTX |
| 3 | IRRX | | |

- **System Thermal Connector( J3 , J7 )**

  A . Connector size : 1X2 = 2 PIN , 2.54mm , 180°, PIN Header

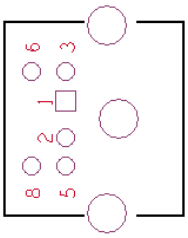
  B . Connector location

  C .Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | Thermal Pin | 2 | Thermal GND |

- **Key board + mouse Connector(KM1)**



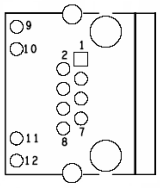

A . Connector size : MINI DIN 6 Pin Connector

B . Connector location

C .Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | Keyboard Data | 5 | +5VSB |
| 2 | Mouse Data | 6 | Keyboard Clock |
| 3 | GND | 7 | NC |
| 4 | NC | 8 | Mouse Clock |

- **82573L LAN1 / LAN2 Connector (CN10 , CN11)**




A . Connector size : RJ45 LAN Connector

B . Connector location

C .Connector pin definition

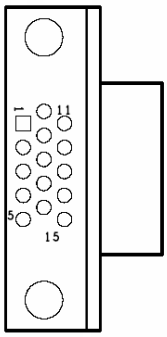
| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | MDI0P | 7 | MDI3P |
| 2 | MDI0N | 8 | MDI3N |
| 3 | MDI1P | 9 | ACTIVITY# |
| 4 | MDI2P | 10 | +5VSB |
| 5 | MDI2N | 11 | LINK100# |
| 6 | MDI1N | 12 | LINK1000# |

- **VGA Connector(VGA1)**

A . Connector size : VGA D-SUB 15 Pin Connector

B . Connector location

C .Connector pin definition



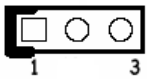

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | Red | 9 | +5V |
| 2 | Green | 10 | GND |
| 3 | Blue | 11 | NC |
| 4 | NC | 12 | DDC Data |
| 5 | GND | 13 | HSYNC |
| 6 | GND | 14 | VSYNC |
| 7 | GND | 15 | DDC Clock |
| 8 | GND | | |

- **RTC Clear (JP6)**

  A . Connector size : 1X3 = 3 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C . Connector pin definition




| | Normal | Clear CMOS |
|---|---|---|
| JP9 | *1-2 | 2-3 |

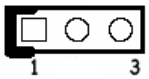
  * = DEFAULT SET

- **(21) CF Card Master/Slave Select (JP14)**

  A . Connector size : 1 X 3 = 3 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C . Connector pin definition




| | Master | Slave |
|---|---|---|
| J13 | *1-2 | 2-3 |

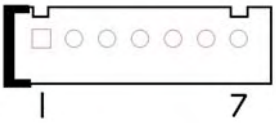
  * = DEFAULT SET

- **CCFL Connector(J2)**

  A . Connector size : 1 X 7 = 7 PIN , 2.5mm JST Connector.

  B . Connector location

  C . Connector pin definition



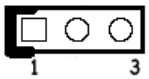

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5V | 5 | GND |
| 2 | +12V | 6 | GND |
| 3 | +12V | 7 | Backlight Enable |
| 4 | Backlight control | 8 | |

- **Panel Voltage Select (JP1)**

  A . Connector size : 1 X 3 = 3 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C . Connector pin definition




| PIN | 1-2 | *2-3 |
|---|---|---|
| Def. | +5V | +3.3V |

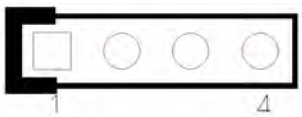
  * = DEFAULT SET

- **Line_in Connector (JP13)**

  A . Connector size : 1X4 = 4 PIN , 2.54mm , 180°, PIN Header

  B . Connector location

  C .Connector pin definition



| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | LINE-IN-L | 3 | DETECT |
| 2 | GND | 4 | LINE-IN-R |

- **HDD LED (JP20)**

  A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5V | 2 | HDD_ACTIVE# |

- **SMBUS Connector(JP12)**

  A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | SMB_CLK | 2 | SMB_DATA |

- **RESET Connector (JP11)**

  A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | GND | 2 | RESET# |

- **POWER LED (JP8)**

  A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

  B . Connector location

  C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | PULL UP TO +5V | 2 | GND |

- **PUSH BOTTON Connector (JP5)**

A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

B . Connector location

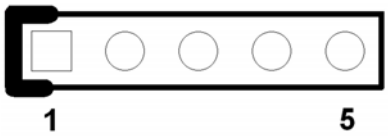

C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | PWRBT | 2 | GND |

- **COM4 RS232 RI# Pin Power Select & RI# Pin Select(JP4)**

A . Connector size : 1X5 = 5 PIN , 2.54mm , 180° , PIN Header

B . Connector location




C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | +5V | 4 | RI4#_SELECT |
| 2 | RI4#_SELECT | 5 | RI4# |
| 3 | +12V | | |

- **AT/ATX power mode select (JP3)**

A . Connector size : 1X2 = 2 PIN , 2.54mm , 180° , PIN Header

B . Connector location

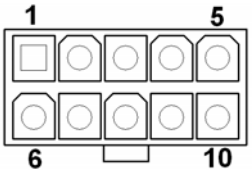

C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | PSON# | 2 | GND |

- **POWER Connector (CON1)**

A . Connector size : 2X5 = 10PIN , 4.2mm , FEMALE

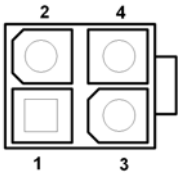
B . Connector location




C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | PSON# | 6 | +5VSB |
| 2 | GND | 7 | +5V |
| 3 | GND | 8 | +5V |
| 4 | +12V | 9 | -12V |
| 5 | NC | 10 | GND |

- **ATX AUX POWER Connector (CON2)**




A . Connector size : 2X2 = 2 PIN , 3.5mm , FEMALE r

B . Connector location

C . Connector pin definition

| Pin | Definition | Pin | Definition |
|---|---|---|---|
| 1 | GND | 3 | +12V |
| 2 | GND | 4 | +12V |

- **LVDS Connector (CN2, CN3)**

CN2

| Pin No. | Description | Pin No. | Description |
|---|---|---|---|
| 1 | L_DDC_CLK | 2 | L_DDC_DATA |
| 3 | PANEL1_VDD | 4 | LB_DATAP0 |
| 5 | NC | 6 | LB_DATAN0 |
| 7 | NC | 8 | PANEL1_VDD |
| 9 | GND | 10 | LB_DATAP1 |
| 11 | LB_CLKP | 12 | LB_DATAN1 |
| 13 | LB_CLKN | 14 | GND |
| 15 | GND | 16 | PANEL1_BACKLIGHT |
| 17 | LB_DATAP2 | 18 | PANEL1_BACKLIGHT |
| 19 | LB_DATAN2 | 20 | GND |

CN3

| Pin No. | Description | Pin No. | Description |
|---|---|---|---|
| 1 | L_DDC_CLK | 2 | L_DDC_DATA |
| 3 | PANEL1_VDD | 4 | LA_DATAP0 |
| 5 | NC | 6 | LA_DATAN0 |
| 7 | NC | 8 | PANEL1_VDD |
| 9 | GND | 10 | LA_DATAP1 |
| 11 | LA_CLKP | 12 | LA_DATAN1 |
| 13 | LA_CLKN | 14 | GND |
| 15 | GND | 16 | PANEL1_BACKLIGHT |
| 17 | LA_DATAP2 | 18 | PANEL1_BACKLIGHT |
| 19 | LA_DATAN2 | 20 | GND |

- **PCI SLOT (CN5)**

| PIN | Side B | Side A | PIN | Side B | Side A |
|---|---|---|---|---|---|
| 1 | -12V | TRST# | 2 | TCK | +12V |
| 3 | GND | TMS | 4 | NC | TDI |
| 5 | +5V | +5V | 6 | +5V | INTA# |

| | | | | | |
|---|---|---|---|---|---|
| 7 | INTB# | INTC# | 8 | INTD# | +5V |
| 9 | NC | CLKRUN# | 10 | REQ1# | +5V |
| 11 | NC | GNT1# | 12 | GND | GND |
| 13 | GND | GND | 14 | CLK1 | +3.3V STANDBY |
| 15 | GND | PCI_RST# | 16 | CLK0 | +5V |
| 17 | GND | GNT0# | 18 | REQ0# | GND |
| 19 | +5V | PME# | 20 | AD31 | AD30 |
| 21 | AD29 | +3.3V | 22 | GND | AD28 |
| 23 | AD27 | AD26 | 24 | AD25 | GND |
| 25 | +3.3V | AD24 | 26 | C/BE#3 | IDSEL_AD26 |
| 27 | AD23 | +3.3V | 28 | GND | AD22 |
| 29 | AD21 | AD20 | 30 | AD19 | GND |
| 31 | +3.3V | AD18 | 32 | AD17 | AD16 |
| 33 | C/BE#2 | +3.3V | 34 | GND | FRAME# |
| 35 | IRDY# | GND | 36 | +3.3V | TRDY# |
| 37 | DEVSEL# | GND | 38 | GND | STOP# |
| 39 | LOCK# | +3.3V | 40 | PERR# | RSV |
| 41 | +3.3V | RSV | 42 | SERR# | GND |
| 43 | +3.3V | PAR | 44 | C/BE#1 | AD15 |
| 45 | AD14 | +3.3V | 46 | GND | AD13 |
| 47 | AD12 | AD11 | 48 | AD10 | GND |
| 49 | GND | AD9 | 50 | KEYWAY | KEYWAY |
| 51 | KEYWAY | KEYWAY | 52 | AD8 | C/BE#0 |
| 53 | AD7 | +3.3V | 54 | +3.3V | AD6 |
| 55 | AD5 | AD4 | 56 | AD3 | GND |
| 57 | GND | AD2 | 58 | AD1 | AD0 |
| 59 | +5V | +5V | 60 | RSV | RSV |
| 61 | +5V | +5V | 62 | +5V | +5V |

## PCI Device interrupt and BUS Assignments

| Chipset | Configuration<br>BUS/DEVIC/FUNCTION | PCI INT# | REQ# /GNT# | Special feature description |
|---|---|---|---|---|
| PCI Slot1 | 1 / 17 / 0<br>1 / 18 / 0 | A,B,C,D<br>D,A,B,C | 0,1 | |

# Chapter 3
# Expansion

## 3.1 System Memory

3308080 incorporates Intel 945GM chipset supports up to 4GB un-buffered non-ECC DDR2 533/667 SDRAM.

## 3.2 Installing DIMM

**To install DIMM**

1. Make sure the two handles of the DIMM sockets are in the “open” position, i.e. the handles stay outward.

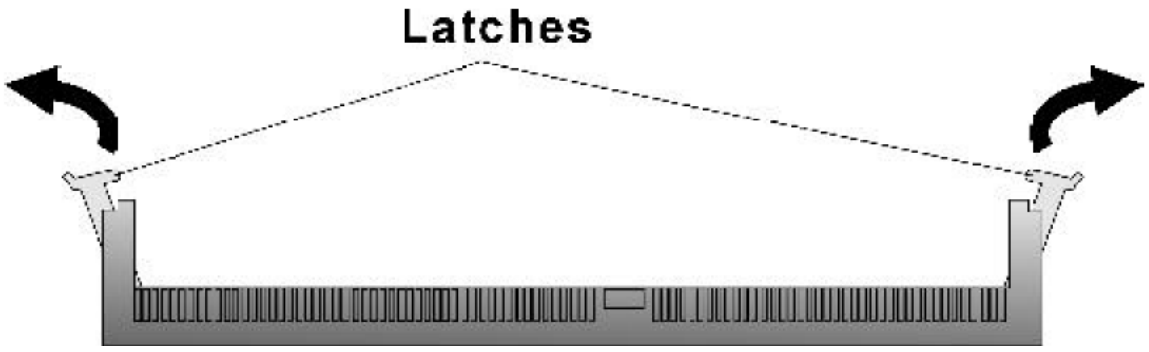



**Figure3-1: How to Install DIMM (1)**

2. Slowly slide the DIMM modules along the plastic guides in the both ends of the socket.

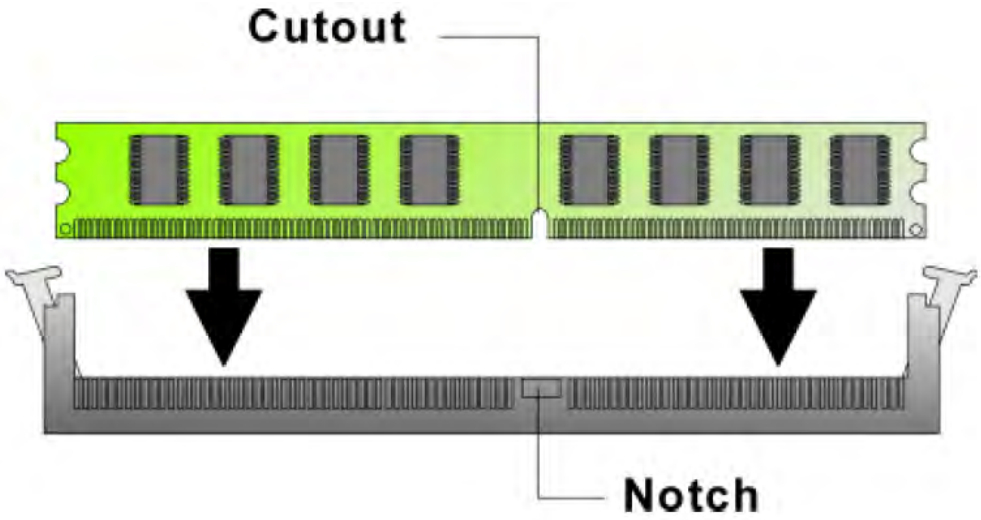



**Figure 3-2: How to Install DIMM (2)**

3. Then press the DIMM module down right into the socket, until a click is heard. That means the two handles automatically locked the memory modules into the right position of the DIMM socket.

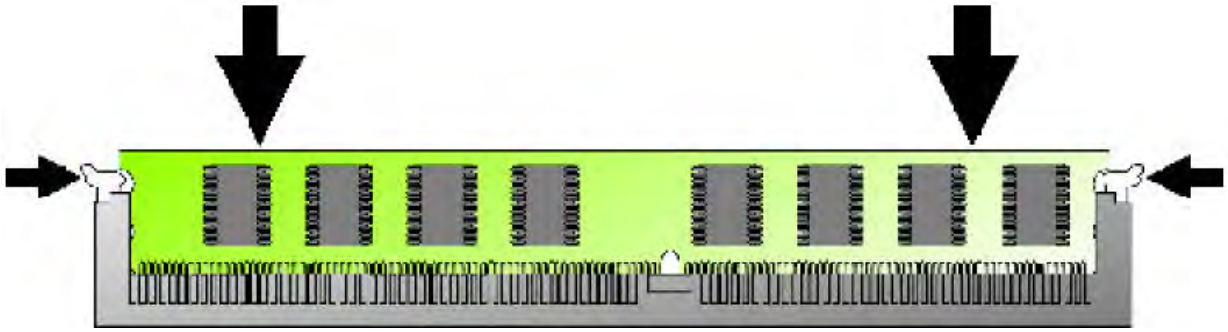


**Figure 3-3: How to Install DIMM (3)**

4. To take away the memory module, just push the both handles outward, the memory module will be ejected by the mechanism in the socket.

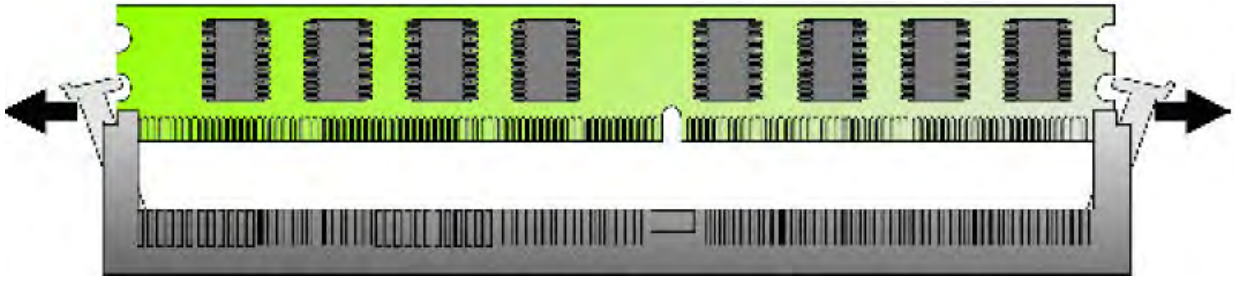


**Figure 3-4: How to Install DIMM (4)**

## 3.3 Installing Compact Flash

1. To install a Compact Flash memory card into 3308080, align the notches on the card with the Compact Flash socket in the 3308080. Then firmly insert the card into the socket until it is completely seated.

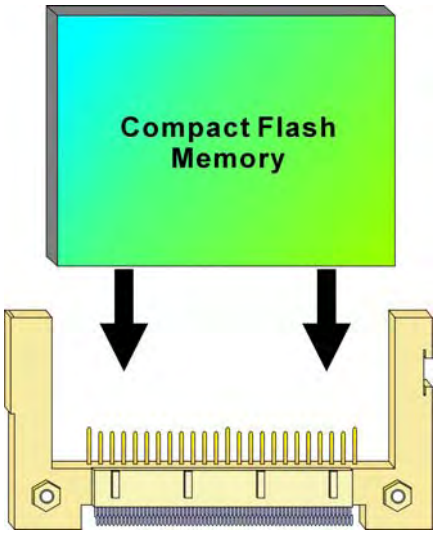



**Figure 3-5: How to Install Compact Flash (1)**

2. To remove the Compact Flash memory card from 3308080, pull out the memory card from the Compact Flash socket.

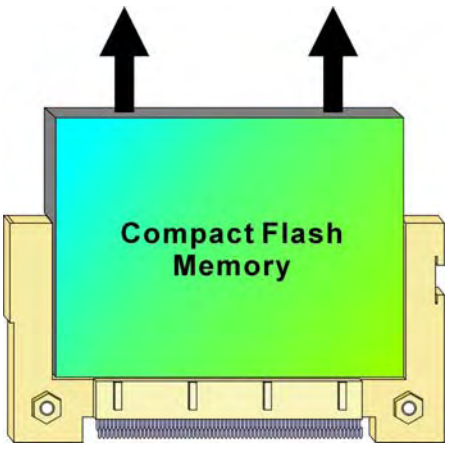



**Figure 3-6: How to Uninstall Compact Flash (2)**

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support your products, projects and business.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