

# **EM-9560 Series**

**5.25" Intel ULV Celeron Embedded SBC  
with onboard memory, VGA, LCD, Audio  
CF, DOC, LAN, USB 2.0  
and PC/104+ expansion**

**USER'S MANUAL**

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# Chapter 1 Introduction

## 1.1 Introduction

The EM-9560 is an embedded SBC offering multi-I/O flexibility and full multi-media functionality support. It also supports onboard system memory, versatile interfaces, storages and PC/104&PC/104+ expansion slots to fulfill the needs from different industry applications. Complying with the industry standard form factor – EBX (5.75" x 8" inches), user can minimize the system conflicts and configuration problems.

EM-9560 offers two computing power options: Intel Celeron Ultra Low Voltage 400MHz and 650MHz. Intel Celeron Ultra Low Voltage 400MHz is designed especially for fan-less requirement to enable better MTBF. As an x86 architecture, the platform supports prevail operating systems such as Windows 95/98SE/XP/2000/NT and Linux. Your previous investment on these operating systems is, thus, protected in the future.

VIA Twister-T chipset is the mid-end position of VIA chipsets. It supports 2D/3D Video Accelerator by integrating S3 Savage4. It also supports 36-bit TFT LCD and 2 channel (2 x 18-bit) LVDS. EM-9560 is able to compatible with the most coming bigger size industrial and commercial LCDs. By enabling VRAM, the system can further cut its cost and while maintains its speed. EM-9560 uses onboard 128MB SDRAM and one SODIMM to limit its board height and supports PC 133/PC 100.

There are three storage options in EM-9560 design. One is EIDE, and one is DOC socket and the other is CF type II. EIDE supports two IDE devices. EM-9560 offers 2 IDE box header options to fulfill flexible hard disk placement in system design. 40-pin box header focuses on 3.5" hard disk, 44-pin box header mainly couples itself with 2.5" hard disk. DOC socket can support M-System DiskOnModule flash memory module. Regarding to CF II socket, system can further cut its whole size when using popular large volume CF II form factor SSD.

EM-9560 embodies the following I/O: 1 x 10/100Mbps LAN, 1 x FDD, 4 x COM, 1 x LPT, Keyboard & Mouse, 4 x USB 2.0, 1 x IrDA and 8 x DIO. Expansion slots include PC/104 and PC/104+. Power supply complies with AT and ATX. Watchdog timer is 256-level.

As an industrial PC embedded card, EM-9560's operating temperature is ranging from 0°C to 60°C. All these numerous features provide an ideal price/performance solution for commercial and industrial applications where stability and reliability are essential.

## 1.2 Features

- Onboard Intel ULV Celeron 400MHz Fan-less or 650MHz CPU onboard
- VIA VT8606 North Bridge and VT82C686B South Bridge
- Onboard 128MB SDRAM and 1 x SODIMM PC-133 up to 512MB memory module
- Award Flash BIOS
- S3 Savage 4 2D/3D video Accelerator
- VGA, 36-bit TTL LCD and 2x18-bit LVDS
- 10/100 Base-T Fast Ethernet
- Support DiskOnChip and CF Type I/II
- PC/104 and PC/104 Plus + expansion slots
- one IDE DMA 33/66/100 and one IDE DMA 33
- 1xLAN, 1xFDD, 4xCOM, 1xLPT, 1xPS2 KB/MS, 4xUSB and 1xIrDA
- Watchdog Timer
- 8 bits Digital I/O
- AT/ATX power function

## 1.3 Specification

### EM-9560 Series

|                      |  |
|----------------------|--|
| Processor            | : 1> Ultra-Low-Voltage Intel Celeron 400MHz Fan-less or 650MHz on board<br>2> CPU Fan connector: 2x1x2.54mm wafer ( for 650 MHz CPU )  |
| L2 Cache             | : 1> 256KB in CPU  |
| Chipset              | : 1> VIA VT8606 (North) & VT82C686B (South)  |
| BIOS                 | : 1> 256KB Award BIOS  |
| System Memory        | : 1> Onboard 128MB SDRAM system memory and one 144 pins SoDIMM socket up to 512MB SDRAM  |
| VGA & LCD            | : 1> Chip: VT8606 integrated S3 ProSavage 4, AGP 4X Graphics support<br>36 bit TFT & 2 channels (2x18-bit) LVDS LCD<br>2> VRAM: Support 8/ 16/ 32MB memory (shared)<br>3> VGA Connector: 2x6 2.0mm pin-header<br>4> LCD Connector: TTL - 2x25x1.0 mm box-header; LVDS - 2x15x1.0 mm box-header |
| LCD Inverter Port    | : 1> Connector: 1x5x2.54 mm wafer  |
| Audio                | : 1> Optional module for AC 97 Codec, Supports Mic-in, Line-in, Line-out   |
| Ethernet             | : 1> Chip: Realtek RTL8139C +<br>2> Connector: 2x6x2.0 mm pin-header   |
| Solid State Disk     | : 1> 1xCF Socket, support type I/II ATA Mode Compact Flash card<br>2> 1xDOC socket, support M-System DiskOnChip 2000 Flash memory module.  |
| Expansion Bus        | : 1> Connector: PC/104+ and PC/104 female  |
| Serial Port (Four)   | : 1> COM Setting: 3xRS-232; 1xRS-232/422/485 setting by jumper<br>2> Connector: 2x20x2.0 mm box-header   |
| Parallel Port        | : 1> Multi-mode: SPP/ EPP/ ECP<br>2> Connector: 2x13x2.0 mm box -header  |
| IDE interface        | : 1> Connector: 2x20x2.54 mm box –header support Ultra DMA100<br>2> Connector: 2x22x2.0 mm box –header   |
| FDD interface        | : 1> Connector: 2x17x2.0 mm box –header  |
| Universal Serial Bus | : 1> Connector: Two 2x5x2.0 mm pin-header  |
| Keyboard / Mouse     | : 1> Connector: 6-pin mini-DIN support PS/2 Keyboard and PS/2 Mouse  |
| IrDA                 | : 1> Share with COM 2<br>2> Connector: 1x5x2.0 mm pin-header   |
| RTC                  | : 1> 3V Li battery in holder   |
| System Indicator     | : 1> H/W Reset, Power LED, HDD LED & System alarm speaker<br>2> Connector: 1x11x2.54 mm pin header   |
| Watchdog Timer       | : 1> 0~255 Sec, 256 level time out intervals (by Software)   |
| Power Source         | : 1> 7 pin EBX power connetor and 4pin small header for –5V and –12V input   |
| Dimension            | : 1> 203 mm x 146 mm ( 8.0" x 5.7" )   |
| Hardware Monitor     | : 1> Super I/O controller integrated   |
| Operating Temp       | : 1> 0°C to 60°C (32°F to 140°F)   |
| Humidity             | : 1> 5% to 95% RH, non-condensing  |
| Ordering Information | : 1> EM-9560A: SBC with Intel ULV C400 CPU, Fan-less, USB2.0<br>2> EM-9560B: SBC with Intel ULV C650 CPU, USB2.0<br>3> EM-9560C: SBC with Intel ULV C400 CPU, Fan-less, USB 1.1<br>4> EM-9560D: SBC with Intel ULV C650 CPU, USB 1.1   |

## 1.4 Unpack your EM-9560 Series

Before you begin to install your card, please make sure that you received the following materials as listed below:

### Standard Packing:

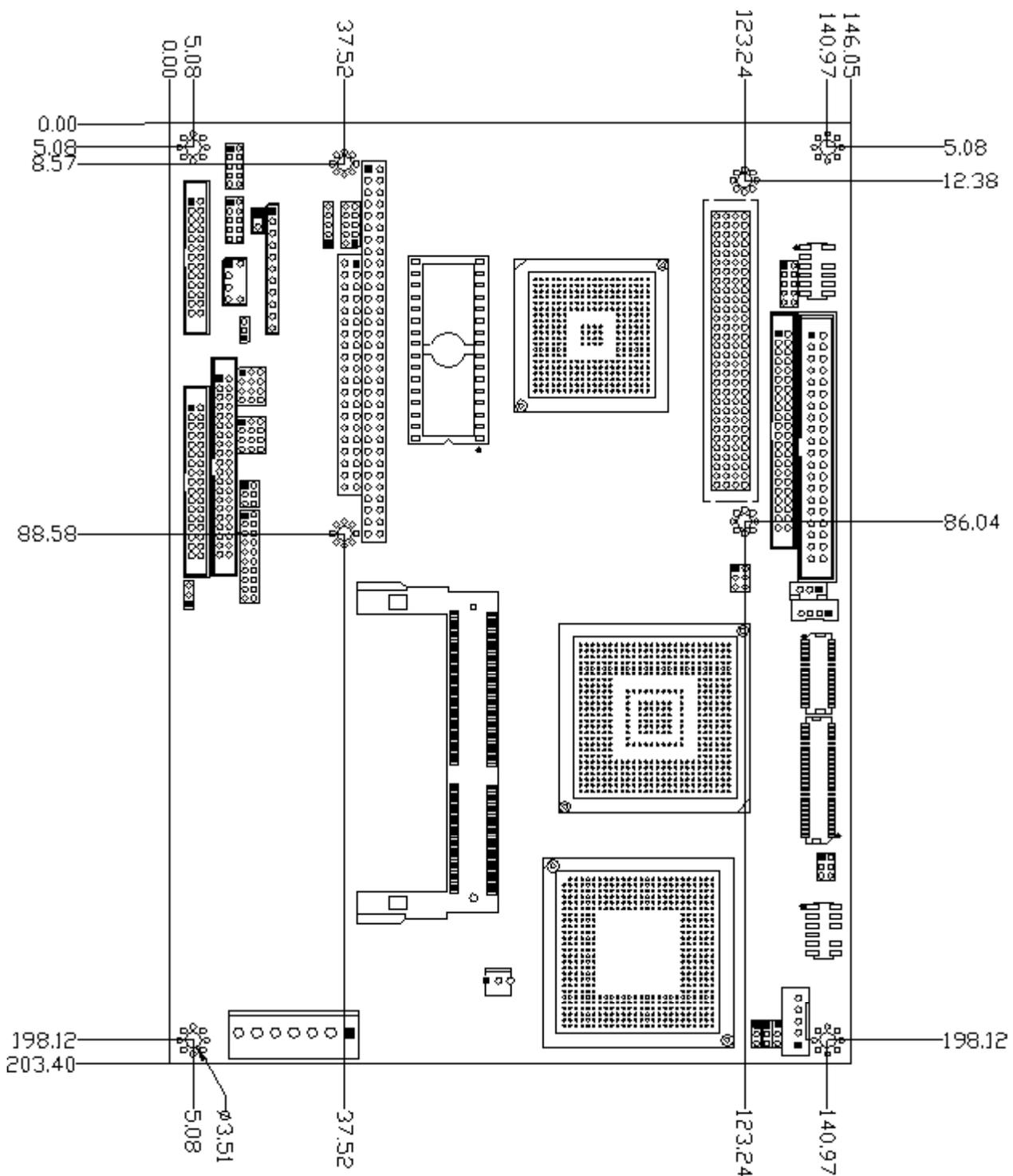
- |                                |                                |
|--------------------------------|--------------------------------|
| ● EM-9560 x 1 pc               | Embedded Single Board Computer |
| ● Driver Utility CD-ROM x 1 pc | Drivers & Utilities            |
| ● User's Manual x 1 pc         | This User's Manual             |

**Note: All Option Kits are to be purchased separately**

### Option: EM-9560CB

- |                         |               |  |
|-------------------------|---------------|--|
| ● USB Y Cable x 1 pc    | 0800100100013 | USB Y Cable 2x5P 2.0mm with key P3,8 L:100mm |
| ● FDD Cable x 1 pc      | 0800100340003 | FDD 34P 2.0mm TO 34P 2.54mm                  |
| ● IDE Cable x 2 pc      | 0800100400004 | ATA100 40P IDE with key P20                  |
| ● IDE Cable x 1 pc      | 080019D440001 | IDE 40Px2 TO 44P with key P20                |
| ● VGA Cable x 1 pc      | 0800200150001 | VGA 12P TO 15P 2.0mm with key P8 L:100mm     |
| ● LAN Cable x 1 pc      | 0800400120001 | LAN 2x6P 2.0mm with key P4 L:100mm           |
| ● Power Cable x 1 pc    | 0800800120002 | EBX (7PIN) TO AT P8/P9(12 PIN)               |
| ● KB/MS Y Cable x 1 pc  | 0801895080001 | K/M Y CABLE 8P Header to PS2                 |
| ● LPT Cable x 1 pc      | 0802100250001 | 25P D-SUB TO 26P 2.0mm with key P26 L:100mm  |
| ● COM Port Cable x 1 pc | 080279D400001 | 40P TO 9P DSUB 公 x4 with key P40             |
| ● Power Cable x 1 pc    | 080W142003001 | 7PEBX+4P PH2.0+3P PH2.0 Header L:300mm       |

## 1.5 Board Layout



## Chapter 2 Installation

### 2.1 System Memory Installation

**Step 1:** Insert the RAM module into the SODIMM socket

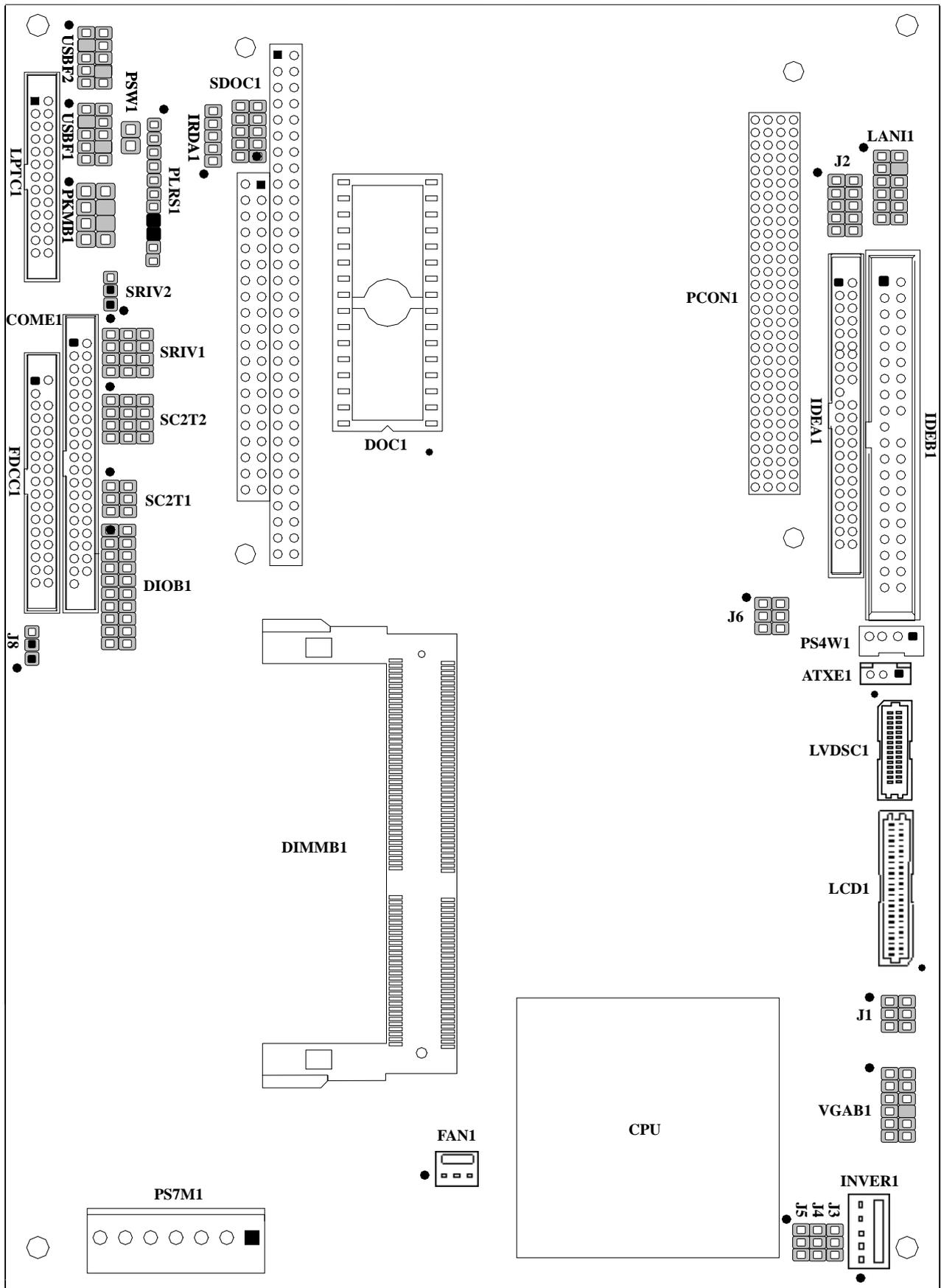


**Step 2:** Press Module down till clip hold.



## 2.2 Jumper Settings and Connectors

### 2.2.1 Board Outline

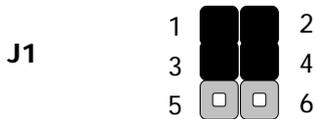


**2.2.2 Jumper Settings Summary**

| LOCATION      | FUNCTION                   |
|---------------|----------------------------|
| J1            | Select Panel Voltage       |
| J2            | Reserve for AC97 Header    |
| J3            | Reserve for inverter       |
| J4            | Reserve for inverter       |
| J5            | Reserve for inverter       |
| J6            | Select CF Card Voltage     |
| J8            | Clear CMOS Data            |
| SRIV1 / SRIV2 | Select COM port pin 9 Type |
| SC2T1 / SC2T2 | Select COM2 Type           |
| SDOC1         | Select Flash Disk Address  |

● **J1: Select Panel Voltage**

| Voltage | J1       |
|---------|----------|
|         | 1-3, 2-4 |
| +3.3V   | 3-5, 4-6 |



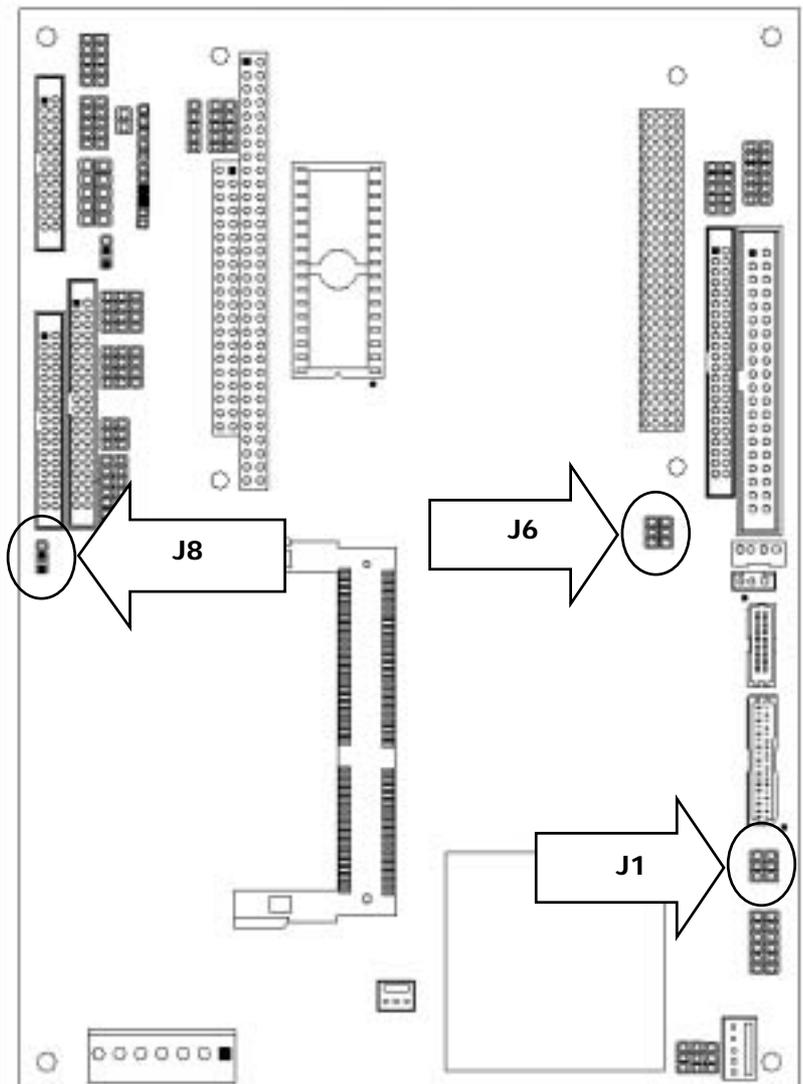
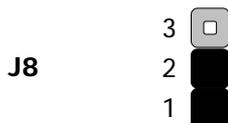
● **J6 : CF Power Select**

| Voltage         | J6       |
|-----------------|----------|
| + 5 V (Default) | 1-3, 2-4 |
| + 3.3 V         | 3-5, 4-6 |



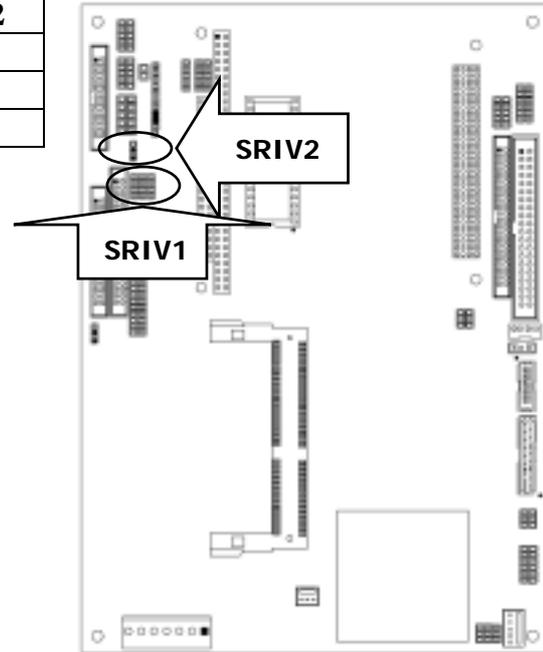
● **J8 : Clear CMOS Data**

| Description      | J8  |
|------------------|-----|
| Normal (Default) | 1-2 |
| Clear CMOS       | 2-3 |



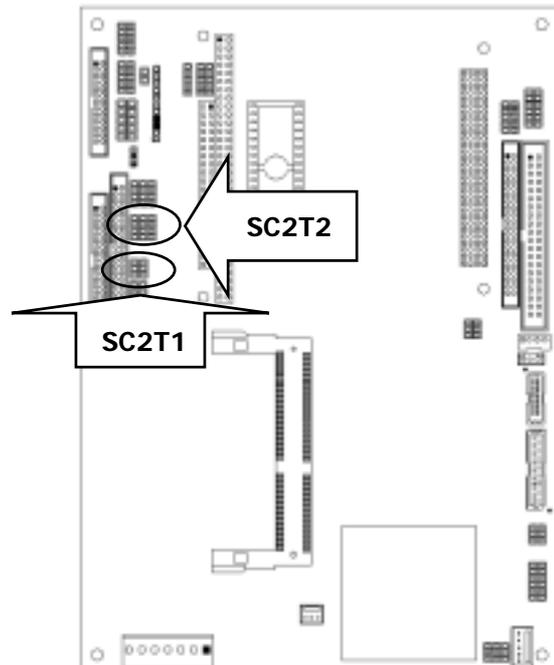
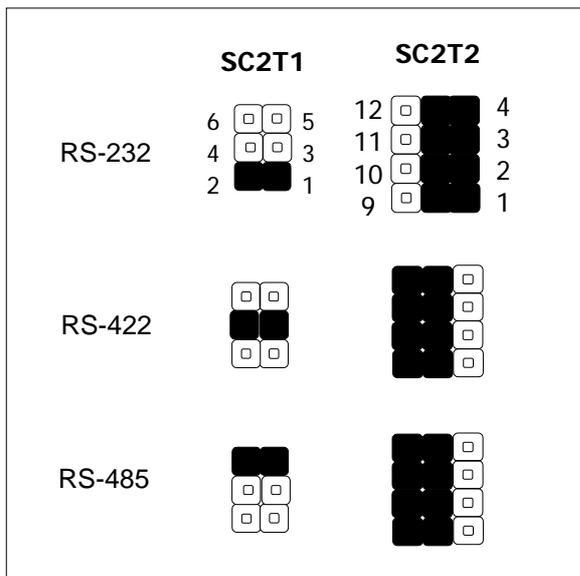
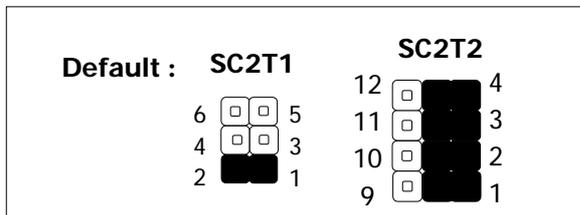
● **SRIV1,SRIV2:Select COM port pin 9 Type**

| Pin 9 Type   | SRIV1              | SRIV2 |
|--------------|--------------------|-------|
| RI (Default) | 1-5,2-6,3-7,4-8    | open  |
| +5V          | 5-9,6-10,7-11,8-12 | 1-2   |
| +12V         | 5-9,6-10,7-11,8-12 | 2-3   |



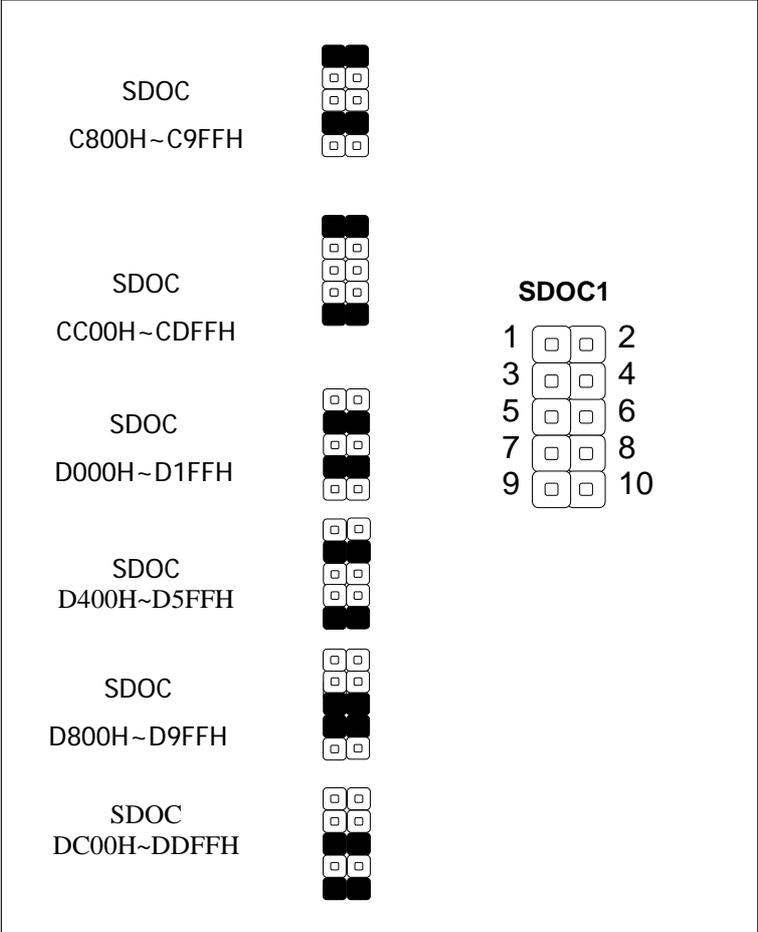
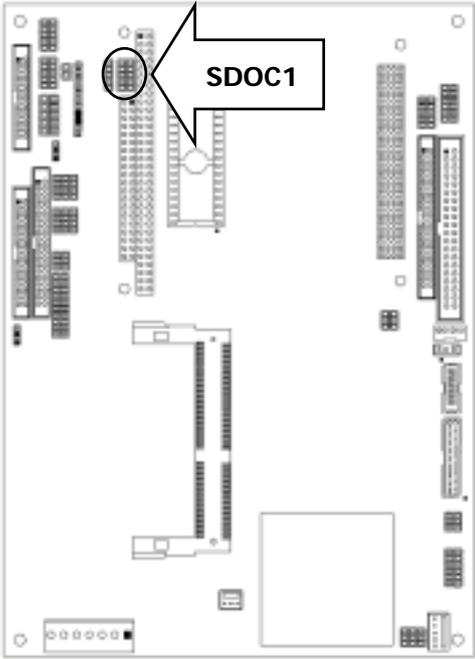
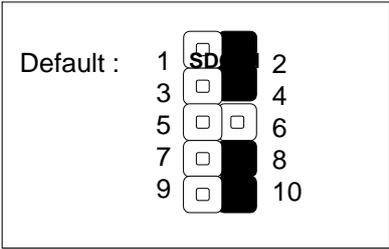
● **SC2T1/SC2T2: Select COM2 Type**

| COM2 TYPE        | SC2T1 | SC2T2              |
|------------------|-------|--------------------|
| RS-232 (Default) | 1-2   | 1-5,2-6,3-7,4-8    |
| RS-422           | 3-4   | 5-9,6-10,7-11,8-12 |
|                  | 5-6   | 5-9,6-10,7-11,8-12 |



● **SDOC1 : Select Flash Disk Address**

| Flash Disk Address | SDOC1    |
|--------------------|----------|
| C800H~C9FFH        | 1-2,7-8  |
| CC00H~CDFFH        | 1-2,9-10 |
| D000H~D1FFH        | 3-4,7-8  |
| D400h~D5FFH        | 3-4,9-10 |
| D800H~D9FFH        | 5-6,7-8  |
| DC00H~DDFFH        | 5-6,9-10 |



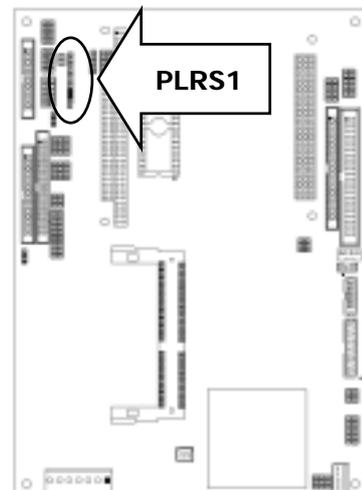
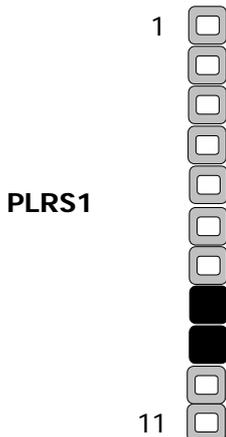
2.2.3 I/O Connectors Summary

| LOCATION | FUNCTION  |
|----------|---|
| PLRS1    | Power LED, HD LED, Reset, Speaker Connector (11 Pin 2.54mm) |
| PSW1     | For ATX Power Button  |
| PS7M1    | 7-Pin Power Connector                                       |
| PS4W1    | 4-Pin Power Connector                                       |
| ATXE1    | For ATX Function  |
| USABF1   | USB Port #1&#2 Connector 2×5 Pin 2.54mm                     |
| USABF2   | USB Port #1&#2 Connector 2×5 Pin 2.54mm                     |
| PKMB1    | PS/2 Keyboard & Mouse Connector                             |
| LPTC1    | Parallel Connector  |
| IRDA1    | IRDA1 Connector   |
| COME1    | COM1, COM2, COM3, COM4 Connector                            |
| FDCC1    | Floppy Interface Connector (34 Pin Header)                  |
| CN2      | Disk-On-Chip Socket   |
| LANI1    | Type 2 (RJ-45 with LED)                                     |
| IDEA1    | IDE Interface Connector                                     |
| IDEB1    | IDE Interface Connector                                     |
| LVDS1    | LVDS Panel Connector 2x15P 1.0mm SMT                        |
| LCD1     | Panel LCD Connector (50Pin 1.0mm JST Header)                |
| VGAB1    | VGA Connector   |
| INVER1   | LCD INVETER Connector                                       |
| DIOB1    | Digital Input / Digital Output Ports                        |
| FAN1     | 3 Pin FAN Connector   |
| PCON1    | pc/104 + Connector  |
| PCONB1   | PC/104 Connector  |
| CF1      | Compact Flash Connector                                     |

●PLRS1: Power LED, HD LED, Reset, Speaker Connector (11 Pin 2.54mm)

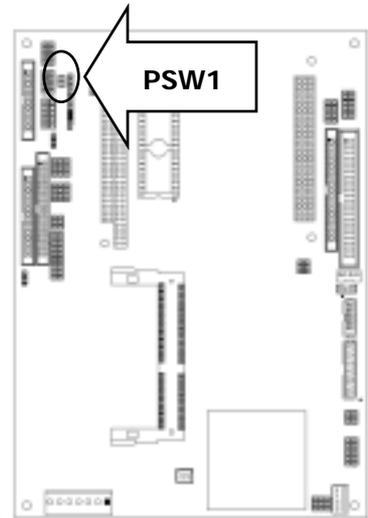
| Pin No. | Description        |
|---------|--------------------|
| 1       | Power LED +        |
| 2       | Power LED +        |
| 3       | GND                |
| 4       | HDD LED +          |
| 5       | HDD LED -          |
| 6       | RESET SW +         |
| 7       | RESET SW - (GND)   |
| 8       | External Speaker - |
| 9       | Internal Buzzer -  |
| 10      | NC                 |
| 11      | External Speaker + |

Default : 8-9 (ON) Internal Buzzer



●PSW1: For ATX Power Button

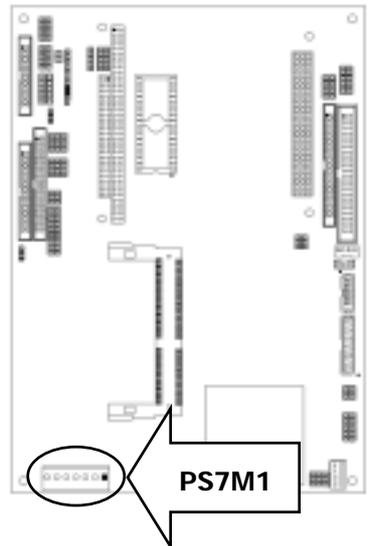
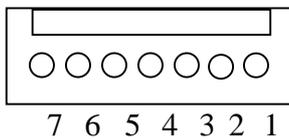
| Pin No. | Description |
|---------|-------------|
| 1       | PANSW       |
| 2       | GND         |



●PS7M1: 7Pin Power Connector

| Pin No. | Description |
|---------|-------------|
| 1       | +5V         |
| 2       | GND         |
| 3       | GND         |
| 4       | +12V        |
| 5       | NC          |
| 6       | GND         |
| 7       | +5V         |

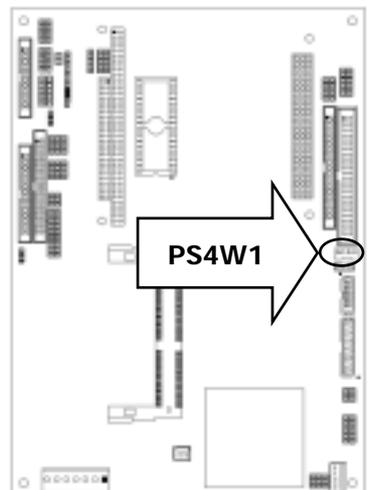
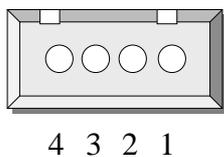
PS7M1



●PS4W1 : 4P Power Connector ( WAFER 4P 2.00mm )

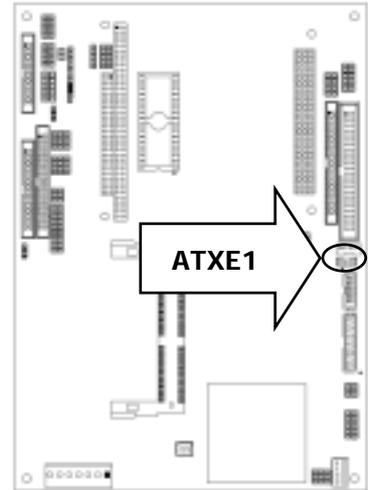
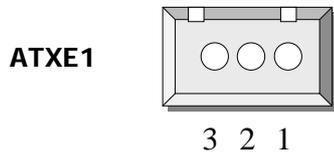
| Pin No. | Description |
|---------|-------------|
| 1       | GND         |
| 2       | -5V         |
| 3       | GND         |
| 4       | -12V        |

PS4W1



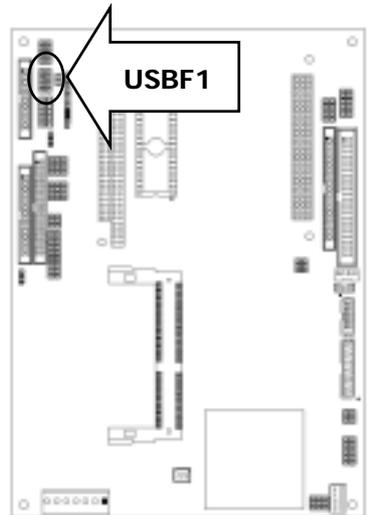
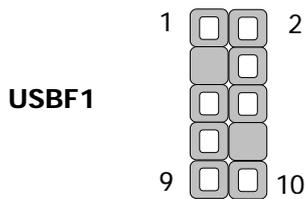
●ATXE1: For ATX Function ( WAFER 3P 2.0mm )

| Pin No. | Description |
|---------|-------------|
| 1       | PSON        |
| 2       | GND         |
| 3       | +5V STANDBY |



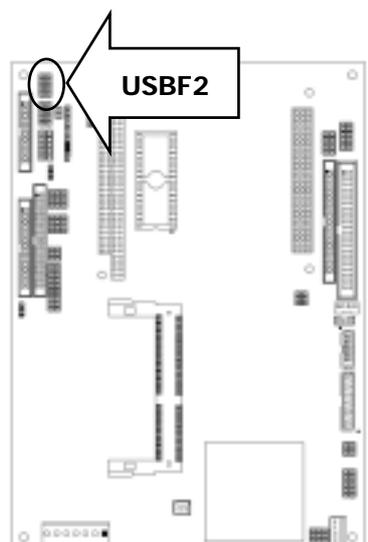
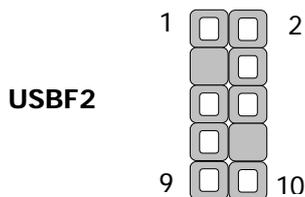
●USBF1 : USB Port #1 & #2 (Connector 2x5 Pin 2.00mm)

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | USB_VCC     | 2       | Ground      |
| 3       | Key         | 4       | USB D1+     |
| 5       | USB D0-     | 6       | USB D1-     |
| 7       | USB D0+     | 8       | Key         |
| 9       | Ground      | 10      | USB_VCC     |



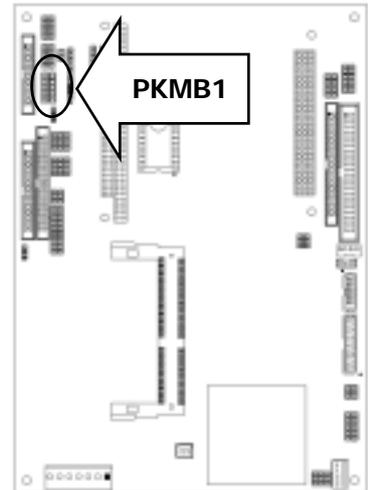
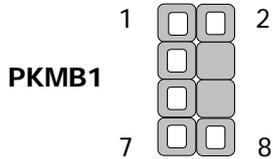
●USBF2 : USB Port #3 & #4 (Connector 2x5 Pin 2.00mm)

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | USB_VCC     | 2       | Ground      |
| 3       | Key         | 4       | USB D1+     |
| 5       | USB D0-     | 6       | USB D1-     |
| 7       | USB D0+     | 8       | Key         |
| 9       | Ground      | 10      | USB_VCC     |



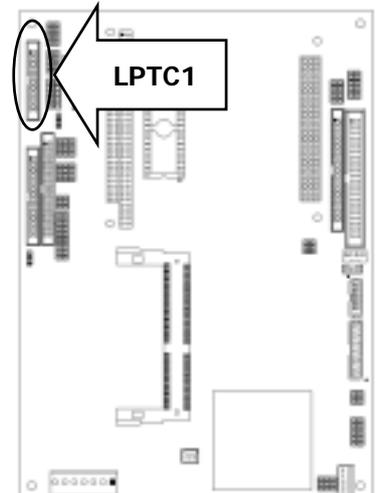
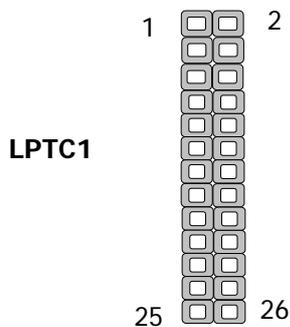
●PKMB1:PS/2 Keyboard & Mouse Connector (2x4 Header 2.54mm )

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | VCC         | 2       | MCLK        |
| 3       | MSDATA      | 4       | NC          |
| 5       | KBDATA      | 6       | NC          |
| 7       | GND         | 8       | KBCLK       |



●LPTC1 : Parallel Connector (26 Pin 2.00mm Pitch Header)

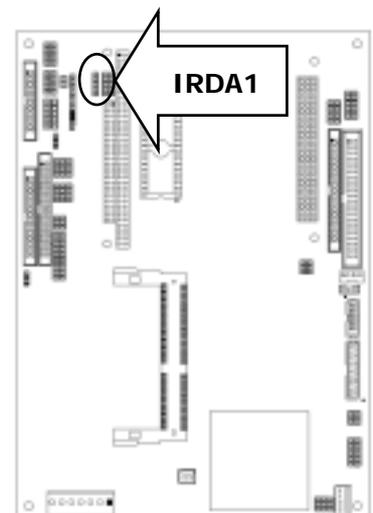
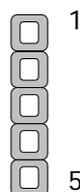
| Pin No. | Description    | Pin No. | Description         |
|---------|----------------|---------|---------------------|
| 1       | Strobe #       | 2       | Auto Form Feed      |
| 3       | Data0          | 4       | Error #             |
| 5       | Data1          | 6       | Initialize #        |
| 7       | Data2          | 8       | Printer Select IN # |
| 9       | Data3          | 10      | Ground              |
| 11      | Data4          | 12      | Ground              |
| 13      | Data5          | 14      | Ground              |
| 15      | Data6          | 16      | Ground              |
| 17      | Data7          | 18      | Ground              |
| 19      | Acknowledge #  | 20      | Ground              |
| 21      | Busy           | 22      | Ground              |
| 23      | Paper Empty    | 24      | Ground              |
| 25      | Printer Select | 26      | KEY                 |



●IRDA1:IRDA1 Connector

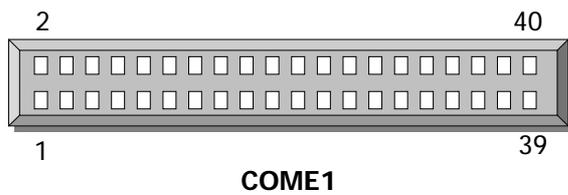
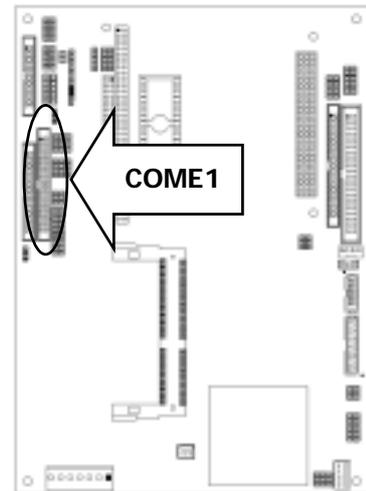
| Pin No. | Description |
|---------|-------------|
| 1       | VCC         |
| 2       | NC          |
| 3       | IRRX        |
| 4       | GND         |
| 5       | IRTX        |

IRDA1



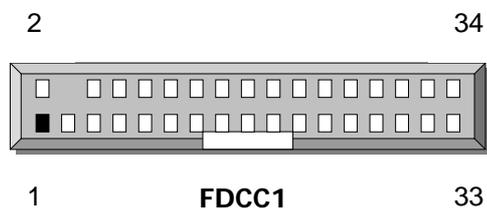
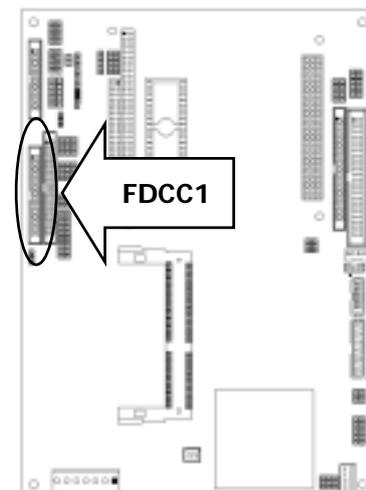
● **COME1:COM1,COM2,COM3,COM4 Connector**

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | NDCD1       | 2       | NDSR1       |
| 3       | NSIN1       | 4       | NRTS1       |
| 5       | NSOUT1      | 6       | NCTS1       |
| 7       | NDTR1       | 8       | CA-D9       |
| 9       | GND         | 10      | NC          |
| 11      | COM2_1      | 12      | NDSR2       |
| 13      | COM2_2      | 14      | NRTS2       |
| 15      | COM2_3      | 16      | NCTS2       |
| 17      | COM2_4      | 18      | CB-P9       |
| 19      | GND         | 20      | NC          |
| 21      | NDCD3       | 22      | NDSR3       |
| 23      | NSIN3       | 24      | NRTS3       |
| 25      | NSOUT3      | 26      | NCTS3       |
| 27      | NDTR3       | 28      | CC-P9       |
| 29      | GND         | 30      | NC          |
| 31      | NDCD4       | 32      | NDSR4       |
| 33      | NSIN4       | 34      | NRTS4       |
| 35      | NSOUT4      | 36      | NCTS4       |
| 37      | NDTR4       | 38      | CD-P9       |
| 39      | GND         | 40      | NC          |



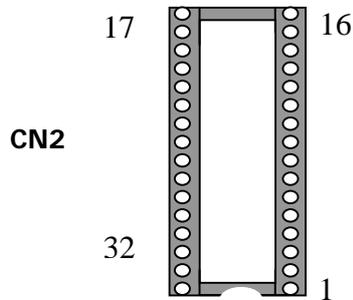
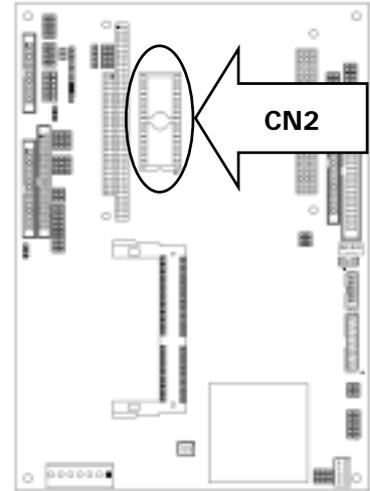
● **FDCC1: Floppy Interface Connector (34 Pin Header)**

| Pin No. | Description | Pin No. | Description        |
|---------|-------------|---------|--------------------|
| 1       | Ground      | 2       | Density Select     |
| 3       | Ground      | 4       | KEY                |
| 5       | Ground      | 6       | DS1                |
| 7       | Ground      | 8       | Index #            |
| 9       | Ground      | 10      | Motor Enable A #   |
| 11      | Ground      | 12      | Drive Select B #   |
| 13      | Ground      | 14      | Drive Select A #   |
| 15      | Ground      | 16      | Motor Enable B #   |
| 17      | Ground      | 18      | Direction #        |
| 19      | Ground      | 20      | Step #             |
| 21      | Ground      | 22      | Write Data #       |
| 23      | Ground      | 24      | Write Gate #       |
| 25      | Ground      | 26      | Track 0 #          |
| 27      | Ground      | 28      | Write Protect #    |
| 29      | NC          | 30      | Read Data #        |
| 31      | Ground      | 32      | Head Side Select # |
| 33      | NC          | 34      | Disk Change #      |



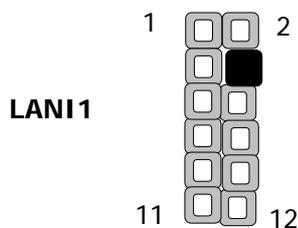
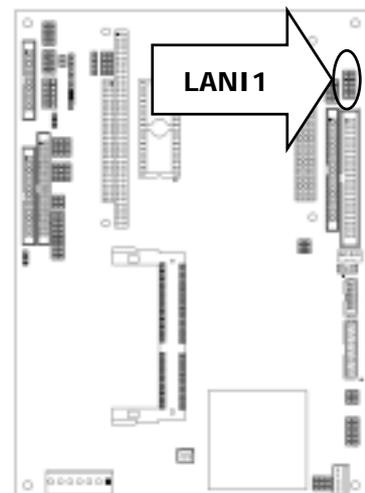
●CN2: Disk-On-Chip Socket

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | AEN         | 17      | SD3         |
| 2       | IOW#        | 18      | SD4         |
| 3       | GND         | 19      | SD5         |
| 4       | SA12        | 20      | SD6         |
| 5       | SA7         | 21      | SD7         |
| 6       | SA6         | 22      | CE#         |
| 7       | SA5         | 23      | SA10        |
| 8       | SA4         | 24      | SMEMR#      |
| 9       | SA3         | 25      | SA11        |
| 10      | SA2         | 26      | SA9         |
| 11      | SA1         | 27      | SA8         |
| 12      | SA0         | 28      | SA13        |
| 13      | SD0         | 29      | SA14        |
| 14      | SD1         | 30      | +5V         |
| 15      | SD2         | 31      | SMEMW#      |
| 16      | GND         | 32      | +5V         |



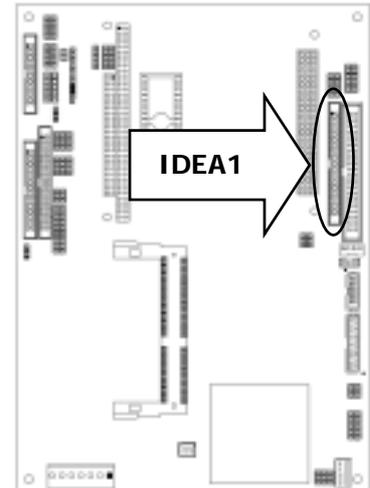
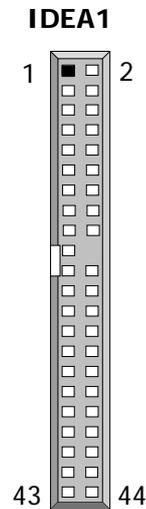
●LANI1:LAN CONNECTOR

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | TX+         | 2       | TX-         |
| 3       | LGND        | 4       | NC          |
| 5       | RX+         | 6       | RX-         |
| 7       | T45         | 8       | T78         |
| 9       | LSPEED+     | 10      | LSPEED-     |
| 11      | LNKACT+     | 12      | LNKACT-     |



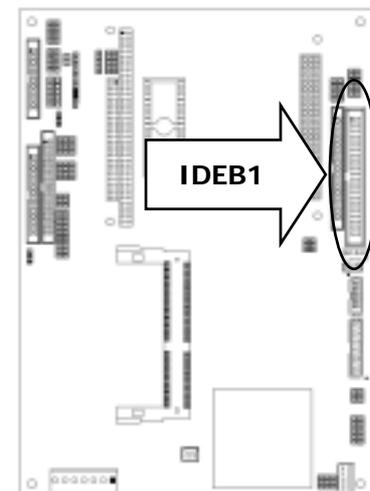
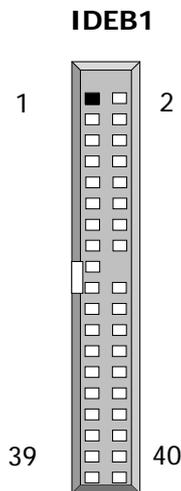
●IDEA1: IDE Interface Connector (44Pin 2.0mm Pitch Header)

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | Reset #     | 2       | Ground      |
| 3       | Data 7      | 4       | Data 8      |
| 5       | Data 6      | 6       | Data 9      |
| 7       | Data 5      | 8       | Data 10     |
| 9       | Data 4      | 10      | Data 11     |
| 11      | Data 3      | 12      | Data 12     |
| 13      | Data 2      | 14      | Data 13     |
| 15      | Data 1      | 16      | Data 14     |
| 17      | Data 0      | 18      | Data 15     |
| 19      | Ground      | 20      | Key         |
| 21      | DMA REQ #   | 22      | Ground      |
| 23      | IOW #       | 24      | Ground      |
| 25      | IOR #       | 26      | Ground      |
| 27      | IOCHRDY     | 28      | Ground      |
| 29      | DMA ACK #   | 30      | Ground      |
| 31      | Interrupt   | 32      | NC          |
| 33      | SA 1        | 34      | NC          |
| 35      | SA 0        | 36      | SA 2        |
| 37      | HDC CS 0#   | 38      | HDC CS 1#   |
| 39      | HDD Active  | 40      | Ground      |
| 41      | VCC         | 42      | VCC         |
| 43      | Ground      | 44      | NC          |



●IDEB1: IDE Interface Connector (40Pin 2.54mm Pitch Header)

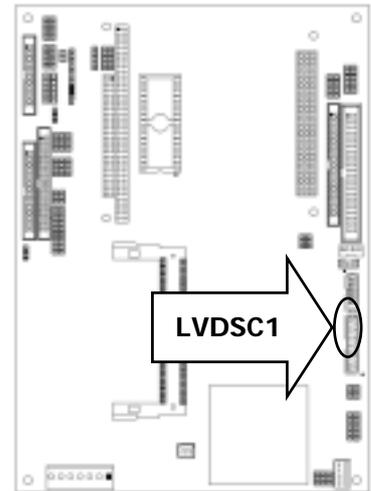
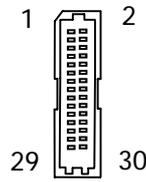
| Pin No. | Description      | Pin No. | Description |
|---------|------------------|---------|-------------|
| 1       | Reset #          | 2       | Ground      |
| 3       | Data 7           | 4       | Data 8      |
| 5       | Data 6           | 6       | Data 9      |
| 7       | Data 5           | 8       | Data 10     |
| 9       | Data 4           | 10      | Data 11     |
| 11      | Data 3           | 12      | Data 12     |
| 13      | Data 2           | 14      | Data 13     |
| 15      | Data 1           | 16      | Data 14     |
| 17      | Data 0           | 18      | Data 15     |
| 19      | Ground           | 20      | Key         |
| 21      | DMA REQ#         | 22      | Ground      |
| 23      | IOW #            | 24      | Ground      |
| 25      | IOR #            | 26      | Ground      |
| 27      | IOCHRDY          | 28      | Ground      |
| 29      | DMA ACK #        | 30      | Ground      |
| 31      | Interrupt        | 32      | NC          |
| 33      | SA1              | 34      | PD80P       |
| 35      | SA0              | 36      | SA2         |
| 37      | HDC CS0 #        | 38      | HDC CS1 #   |
| 39      | HDD Active LED # | 40      | Ground      |



●LVDS1 : LVDS Panel Connector 2x15P 1.0mm SMT

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | FVCC        | 2       | FVCC        |
| 3       | GND         | 4       | GND         |
| 5       | NC          | 6       | +12V        |
| 7       | Y0M         | 8       | Z0M         |
| 9       | Y0P         | 10      | Z0P         |
| 11      | GND         | 12      | GND         |
| 13      | Y1M         | 14      | Z1M         |
| 15      | Y1P         | 16      | Z1P         |
| 17      | GND         | 18      | GND         |
| 19      | Y2M         | 20      | Z2M         |
| 21      | Y2P         | 22      | Z2P         |
| 23      | GND         | 24      | GND         |
| 25      | YCM         | 26      | ZCM         |
| 27      | YCP         | 28      | ZCP         |
| 29      | GND         | 30      | GND         |

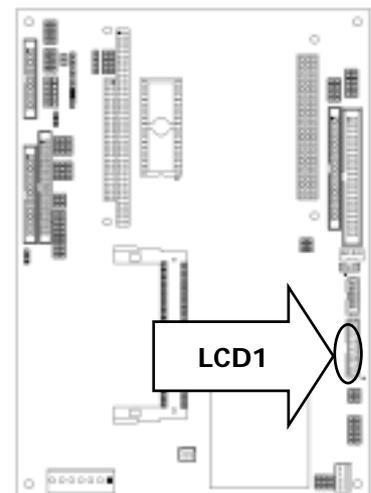
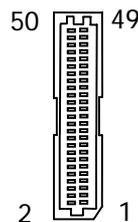
LVDS1



●LCD1: Panel LCD Connector (50Pin 1.0mm JST Header)

| Pin No. | Signal   | Pin No. | Signal    |
|---------|----------|---------|-----------|
| 1       | FVCC     | 2       | FVCC      |
| 3       | LP-HSYNC | 4       | FLM-VSYNC |
| 5       | M/DE     | 6       | ENABKL    |
| 7       | ENAVEE   | 8       | ENAVDD    |
| 9       | SHFCLK   | 10      | +12V      |
| 11      | GND      | 12      | GND       |
| 13      | P0       | 14      | P1        |
| 15      | P2       | 16      | P3        |
| 17      | P4       | 18      | P5        |
| 19      | P6       | 20      | P7        |
| 21      | P8       | 22      | P9        |
| 23      | P10      | 24      | P11       |
| 25      | P12      | 26      | P13       |
| 27      | P14      | 28      | P15       |
| 29      | GND      | 30      | P16       |
| 31      | P17      | 32      | P18       |
| 33      | P19      | 34      | P20       |
| 35      | P21      | 36      | P22       |
| 37      | P23      | 38      | GND       |
| 39      | P24      | 40      | P25       |
| 41      | P26      | 42      | P27       |
| 43      | P28      | 44      | P29       |
| 45      | P30      | 46      | P31       |
| 47      | P32      | 48      | P33       |
| 49      | P34      | 50      | P35       |

LCD1



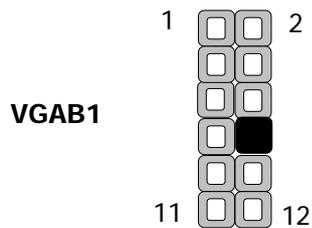
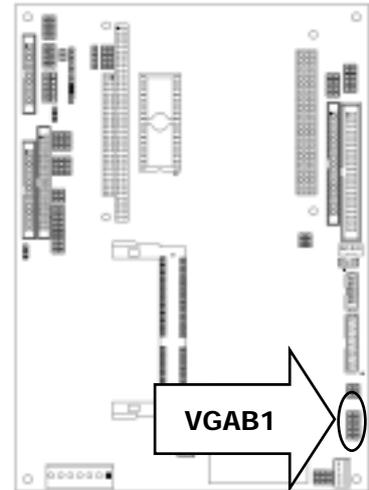
● Flat Panel Interface Pins listing for DSTN and color TFT LCD

|                 |             |              |              |              |               |               |
|-----------------|-------------|--------------|--------------|--------------|---------------|---------------|
| SR7D[3]         | 0           | 0            | 0            | 0            | 0             | 0             |
| SR70[0]         | 1           | 1            | 1            | 0            | 0             | 0             |
| SR79[1-0]       | 10          | 10           | 10           | 10           | 10            | 10            |
| SR7D[2-0]       | 001         | 000          | 010          | 010          | 000           | 010           |
| <b>Pin Name</b> | <b>STN8</b> | <b>STN16</b> | <b>ATN24</b> | <b>DSTN8</b> | <b>DSTN16</b> | <b>DSTN24</b> |
| FPD0            | R0          | R0           | R0           | LR0          | LR0           | LR0           |
| FPD1            | G0          | G0           | G0           |              |               | LR3           |
| FPD2            | B0          | B0           | B0           | LG0          | LG0           | LG0           |
| FPD3            | R1          | R1           | R1           |              |               |               |
| FPD4            | G1          | G1           | G1           | LB0          | LB0           | LB0           |
| FPD5            | B1          | B1           | B1           |              |               |               |
| FPD6            | R2          | R2           | R2           | LR1          | LR1           | LR1           |
| FPD7            | G2          | G2           | G2           |              |               | LG3           |
| FPD8            |             | B2           | B2           |              | LG1           | LG1           |
| FPD9            |             | R3           | R3           |              |               |               |
| FPD10           |             | G3           | G3           |              | LB1           | LB1           |
| FPD11           |             | B3           | B3           |              |               |               |
| FPD12           |             | R4           | R4           |              | LR2           | LR2           |
| FPD13           |             | G4           | G4           |              |               | LB3           |
| FPD14           |             | B4           | B4           |              | LG2           | LG2           |
| FPD15           |             | R5           | R5           |              |               |               |
| FPD16           |             |              | G5           |              |               | LB2           |
| FPD17           |             |              | B5           |              |               |               |
| FPD18           |             |              | R6           | UR0          | UR0           | UR0           |
| FPD19           |             |              | G6           |              |               | UR3           |
| FPD20           |             |              | B6           | UG0          | UG0           | UG0           |
| FPD21           |             |              | R7           |              |               |               |
| FPD22           |             |              | G7           | UB0          | UB0           | UB0           |
| FPD23           |             |              | B7           |              |               |               |
| FPD24           |             |              |              | UR1          | UR1           | UR1           |
| FPD25           |             |              |              |              |               | UG3           |
| FPD26           |             |              |              |              | UG1           | UG1           |
| FPD27           |             |              |              |              |               |               |
| FPD28           |             |              |              |              | UB1           | UB1           |
| FPD29           |             |              |              |              |               | UB3           |
| FPD30           |             |              |              |              | UR2           | UR2           |
| FPD31           |             |              |              |              |               | UB3           |
| FPD32           |             |              |              |              | UG2           | UG2           |
| FPD33           |             |              |              |              |               |               |
| FPD34           |             |              |              |              |               | UB2           |
| FPD35           |             |              |              |              |               |               |

|                 |             |               |              |                |              |                |              |                |              |
|-----------------|-------------|---------------|--------------|----------------|--------------|----------------|--------------|----------------|--------------|
| SR7D[3]         | 0           | 0             |              | 0              | 0            |                | 0            | 0              | 0            |
| SR70[0]         | 1           | 1             | 1            | 1              | 1            | 1              | 1            | 1              | 1            |
| SR79[1-0]       | 00          | 00            | 00           | 00             | 00           | 00             | 00           | 00             | 00           |
| SR7D[2-0]       |             | 010           | 000          |                | 000          | 010            | 000          | 010            | 001          |
| <b>Pin Name</b> | <b>TFT9</b> | <b>TFT2×9</b> | <b>TFT12</b> | <b>TFT2×12</b> | <b>TFT15</b> | <b>TFT2×15</b> | <b>TFT18</b> | <b>TFT2×18</b> | <b>TFT24</b> |
|                 |             |               |              |                |              | <b>5</b>       |              | <b>8</b>       |              |
| FPD0            |             |               |              |                |              |                | R0           | R00            |              |
| FPD1            |             |               |              |                |              |                |              | R10            | R0           |
| FPD2            |             |               |              |                | R0           | R00            | R1           | R01            | R3           |
| FPD3            |             |               |              |                |              | R10            |              | R11            |              |
| FPD4            |             |               | R0           | R00            | R1           | R01            | R2           | R02            | R4           |
| FPD5            |             |               |              | R10            |              | R11            |              | R12            |              |
| FPD6            | R0          | R00           | R1           | R01            | R2           | R02            | R3           | R03            | R5           |
| FPD7            |             | R10           |              | R11            |              | R12            |              | R13            | R1           |
| FPD8            | R1          | R01           | R2           | R02            | R3           | R03            | R4           | R04            | R6           |
| FPD9            |             | R11           |              | R12            |              | R13            |              | R14            |              |
| FPD10           | R2          | R02           | R3           | R03            | R4           | R04            | R5           | R05            | R7           |
| FPD11           |             | R12           |              | R13            |              | R14            |              | R15            |              |
| FPD12           |             |               |              |                |              |                | G0           | G00            | G2           |
| FPD13           |             |               |              |                |              |                |              | G10            | G0           |
| FPD14           |             |               |              |                | G0           | G00            | G1           | G01            | G3           |
| FPD15           |             |               |              |                |              | G10            |              | G11            |              |
| FPD16           |             |               | G0           | G00            | G1           | G01            | G2           | G02            | G4           |
| FPD17           |             |               |              | G10            |              | G11            |              | G12            |              |
| FPD18           | G0          | G00           | G1           | G01            | G2           | G02            | G3           | G03            | G5           |
| FPD19           |             | G10           |              | G11            |              | G12            |              | G13            | G1           |
| FPD20           | G1          | G01           | G2           | G02            | G3           | G03            | G4           | G04            | G6           |
| FPD21           |             | G11           |              | G12            |              | G13            |              | G14            |              |
| FPD22           | G2          | G02           | G3           | G03            | G4           | G04            | G5           | G05            | G7           |
| FPD23           |             | G12           |              | G13            |              | G14            |              | G15            |              |
| FPD24           |             |               |              |                |              |                | B0           | B00            | B2           |
| FPD25           |             |               |              |                |              |                |              | B10            | B0           |
| FPD26           |             |               |              |                | B0           | B00            | B1           | B01            | B3           |
| FPD27           |             |               |              |                |              | B10            |              | B11            |              |
| FPD28           |             |               | B0           | B00            | B1           | B01            | B2           | B02            | B4           |
| FPD29           |             |               |              | B10            |              | B11            |              | B12            |              |
| FPD30           | B0          | B00           | B1           | B01            | B2           | B02            | B3           | B03            | B5           |
| FPD31           |             | B10           |              | B11            |              | B12            |              | B13            | B1           |
| FPD32           | B1          | B01           | B2           | B02            | B3           | B03            | B4           | B04            | B6           |
| FPD33           |             | B11           |              | B12            |              | B13            |              | B14            |              |
| FPD34           | B2          | B02           | B3           | B03            | B4           | B04            | B5           | B05            | B7           |
| FPD35           |             | B12           |              | B13            |              | B14            |              | B15            |              |

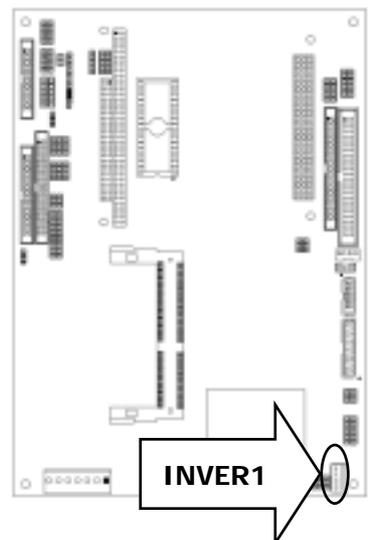
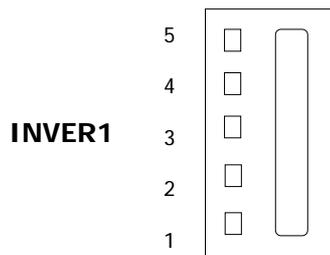
● **VGAB1: External VGA Connector (15 Pin D-Sub)**

| Pin No. | Description        |
|---------|--------------------|
| 1       | Red Color Signal   |
| 2       | Green Color Signal |
| 3       | Blue Color Signal  |
| 4       | NC                 |
| 5       | Ground             |
| 6       | Ground             |
| 7       | Ground             |
| 8       | Ground             |
| 9       | NC                 |
| 10      | Ground             |
| 11      | NC                 |
| 12      | DDC-DATA           |
| 13      | H-Sync.            |
| 14      | V-Sync.            |
| 15      | DDC-CLK            |



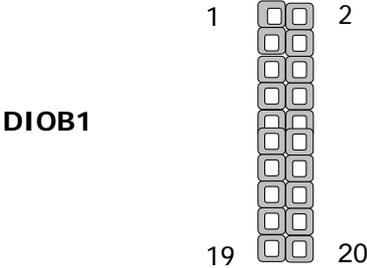
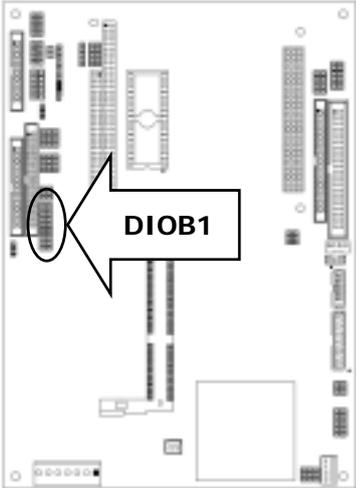
● **INVER1 : LCD INVETER Connector**

| Pin No. | Description |
|---------|-------------|
| 1       | GND         |
| 2       | +5V         |
| 3       | +12V        |
| 4       | NC          |
| 5       | Bright      |



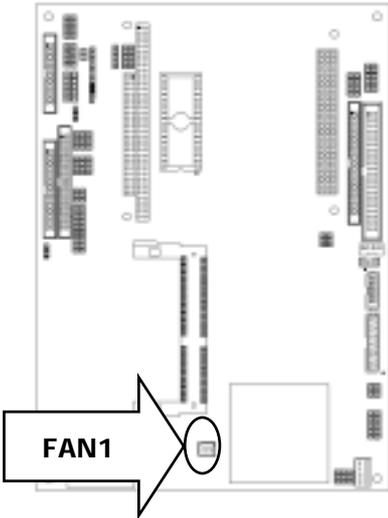
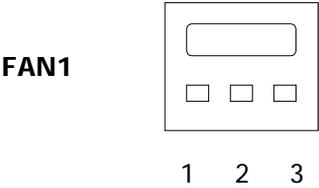
**●DIOB1: Digital Input/ Digital Output Ports**  
**Input: I 440**  
**Output: O 440 AA(Data 0~Data 7 All High)**

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | DO0         | 2       | DO1         |
| 3       | DO2         | 4       | DO3         |
| 5       | DO4         | 6       | DO5         |
| 7       | DO6         | 8       | DO7         |
| 9       | GND         | 10      | GND         |
| 11      | DIO         | 12      | D11         |
| 13      | DI2         | 14      | DI3         |
| 15      | DI4         | 16      | DI5         |
| 17      | DI6         | 18      | DI7         |
| 19      | GND         | 20      | GND         |



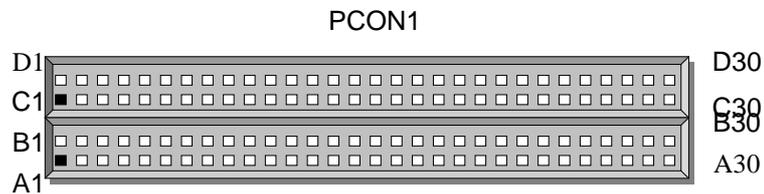
**●FAN1 : 3 Pin FAN Connector**

| Pin No. | Description |
|---------|-------------|
| 1       | Ground      |
| 2       | +5V         |
| 3       | FAN Status  |



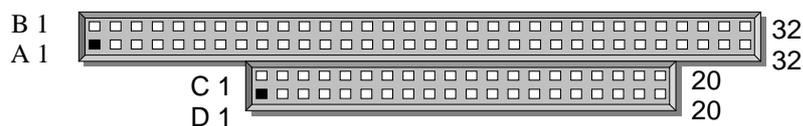
●PCON1:PC/104-Plus Connector

| Pin-NO | Description | Pin-NO | Description | Pin-NO | Description | Pin-NO | Description |
|--------|-------------|--------|-------------|--------|-------------|--------|-------------|
| A1     | KEY2        | B1     | NC          | C1     | VCC         | D1     | AD0         |
| A2     | VCC         | B2     | AD2         | C2     | AD1         | D2     | VCC         |
| A3     | AD5         | B3     | GND         | C3     | AD4         | D3     | AD3         |
| A4     | C/BE-0      | B4     | AD7         | C4     | GND         | D4     | AD6         |
| A5     | GND         | B5     | AD9         | C5     | AD8         | D5     | GND         |
| A6     | AD11        | B6     | VCC         | C6     | AD10        | D6     | M66EN       |
| A7     | AD14        | B7     | AD13        | C7     | GND         | D7     | AD12        |
| A8     | VCC3        | B8     | C/BE-1      | C8     | AD15        | D8     | VCC3        |
| A9     | SERR-       | B9     | GND         | C9     | SBO-        | D9     | PAR         |
| A10    | GND         | B10    | PERR-       | C10    | VCC3        | D10    | SDONE       |
| A11    | STOP-       | B11    | VCC3        | C11    | LOCK-       | D11    | GND         |
| A12    | VCC3        | B12    | TRDY-       | C12    | GND         | D12    | DEVSEL-     |
| A13    | FRAME-      | B13    | GND         | C13    | IRDY-       | D13    | VCC3        |
| A14    | GND         | B14    | AD16        | C14    | VCC3        | D14    | C/BE-2      |
| A15    | AD18        | B15    | VCC3        | C15    | AD17        | D15    | GND         |
| A16    | AD21        | B16    | AD20        | C16    | GND         | D16    | AD19        |
| A17    | VCC3        | B17    | AD23        | C17    | AD22        | D17    | VCC3        |
| A18    | IDSL0       | B18    | GND         | C18    | IDSL1       | D18    | IDSL2       |
| A19    | AD24        | B19    | C/BE-3      | C19    | VCC         | D19    | IDSL3       |
| A20    | GND         | B20    | AD26        | C20    | AD25        | D20    | GND         |
| A21    | AD29        | B21    | VCC         | C21    | AD28        | D21    | AD27        |
| A22    | VCC         | B22    | AD30        | C22    | GND         | D22    | AD31        |
| A23    | REQ-0       | B23    | GND         | C23    | REQ-1       | D23    | VCC         |
| A24    | GND         | B24    | REQ-2       | C24    | VCC         | D24    | GNT-0       |
| A25    | GNT-1       | B25    | VCC         | C25    | GNT-2       | D25    | GND         |
| A26    | VCC         | B26    | PCICLK0     | C26    | GND         | D26    | PCICLK1     |
| A27    | PCICLK2     | B27    | VCC         | C27    | PCICLK3     | D27    | GND         |
| A28    | GND         | B28    | PIRQ-D      | C28    | VCC         | D28    | PCIRST-     |
| A29    | +12V        | B29    | PIRQ-A      | C29    | PIRQ-B      | D29    | PIRQ-C      |
| A30    | -12V        | B30    | NC          | C30    | NC          | D30    | KEY1        |



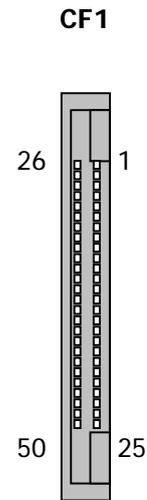
## ●PCON1B:PC/104 Connector

| Pin No. | 2.3 Description |          |        |          |
|---------|-----------------|----------|--------|----------|
|         | CONA1           |          | CONB2  |          |
|         | Row A           | Row B    | Row C  | Row D    |
| 1       | IOCHCK#         | Ground   | Ground | Ground   |
| 2       | SD7             | RSTDRV   | SBHE#  | MEMCS16# |
| 3       | SD6             | +5V      | LA23   | IOCS16#  |
| 4       | SD5             | IRQ9     | LA22   | IRQ10    |
| 5       | SD4             | -5V      | LA21   | IRQ11    |
| 6       | SD3             | DRQ2     | LA20   | IRQ12    |
| 7       | SD2             | -12V     | LA19   | IRQ15    |
| 8       | SD1             | 0 WS#    | LA18   | IRQ14    |
| 9       | SD0             | +12V     | LA17   | DACK0#   |
| 10      | IOCHRDY         | NC       | MEMR#  | DRQ0     |
| 11      | AEN             | SMEMW#   | MEMW#  | DACK5#   |
| 12      | SA19            | SMEMR#   | SD8    | DRQ5     |
| 13      | SA18            | IOW#     | SD9    | DACK6#   |
| 14      | SA17            | IOR#     | SD10   | DRQ6     |
| 15      | SA16            | DACK3#   | SD11   | DACK7#   |
| 16      | SA15            | DRQ3     | SD12   | DRQ7     |
| 17      | SA14            | DACK1#   | SD13   | +5V      |
| 18      | SA13            | DRQ1     | SD14   | MASTER#  |
| 19      | SA12            | REFRESH# | SD15   | Ground   |
| 20      | SA11            | SYSCLK   | NC     | Ground   |
| 21      | SA10            | IRQ7     | ---    | ---      |
| 22      | SA9             | IRQ6     | ---    | ---      |
| 23      | SA8             | IRQ5     | ---    | ---      |
| 24      | SA7             | IRQ4     | ---    | ---      |
| 25      | SA6             | IRQ3     | ---    | ---      |
| 26      | SA5             | DACK2#   | ---    | ---      |
| 27      | SA4             | TC       | ---    | ---      |
| 28      | SA3             | BALE     | ---    | ---      |
| 29      | SA2             | +5V      | ---    | ---      |
| 30      | SA1             | OSC      | ---    | ---      |
| 31      | SA0             | Ground   | ---    | ---      |
| 32      | Ground          | Ground   | ---    | ---      |



●CF1: Compact Flash Connector

| Pin No. | Description | Pin No. | Description |
|---------|-------------|---------|-------------|
| 1       | GND         | 26      | CD1-        |
| 2       | DATA3       | 27      | DATA11      |
| 3       | DATA4       | 28      | DATA12      |
| 4       | DATA5       | 29      | DATA13      |
| 5       | DATA6       | 30      | DATA14      |
| 6       | DATA7       | 31      | DATA15      |
| 7       | CE1#        | 32      | CE2#        |
| 8       | A10         | 33      | VS1#        |
| 9       | OE#         | 34      | IOR#        |
| 10      | A9          | 35      | IOW#        |
| 11      | A8          | 36      | WE#         |
| 12      | A7          | 37      | READY#      |
| 13      | CFVCC3      | 38      | CFVCC3      |
| 14      | A6          | 39      | CSEL        |
| 15      | A5          | 40      | VS2#        |
| 16      | A4          | 41      | RESET       |
| 17      | A3          | 42      | WAIT#       |
| 18      | A2          | 43      | INPACK#     |
| 19      | A1          | 44      | REG#        |
| 20      | A0          | 45      | DASP#       |
| 21      | DATA0       | 46      | DIAG#       |
| 22      | DATA1       | 47      | DATA8       |
| 23      | DATA2       | 48      | DATA9       |
| 24      | WP          | 49      | DATA10      |
| 25      | CD2-        | 50      | GND         |



\*CF1 is on the solder side

## Chapter 3 BIOS Setup

Award's ROM BIOS provides a built-in Setup program that allows users to modify the basic system configuration and settings. The modified data will be stored in a battery-backed CMOS RAM so that this data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM remains unchanged unless there is a configuration change in the system, such as hard drive replacement or new equipment installment.

### 3.1 Running AWARD BIOS

The Setup Utility is stored in the BIOS ROM. When the power of the computer system is turned on, a screen message will appear to give you an opportunity to call up the Setup Utility while the BIOS will enter the Power On Self Test (POST) routines. The POST routines perform various diagnostic checks while initializing the board hardware. If the routines encounter an error during the tests, the error will be reported in one of two ways, a series of short beeps or an error message on the screen. There are two kinds of errors, fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

" Press <F1> to RESUME "

Write down the message and press the F1 key to continue the boot up sequence. After the POST routines are completed, the following message appears:

" Press DEL to enter SETUP "

#### Entering Setup

Turn on the power of the computer system and press <Del> immediately. If you don't have the chance to respond, reset the system by simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys, or by pushing the ' Reset ' button on the system cabinet. You can also restart by turning the system OFF then ON.

## 3.2 CMOS Setup Utility

To access the AWARD BIOS SETUP program, press the <DEL> key. The screen display will appear as shown below:

### Main Program Screen

| Phoenix - Award BIOS CMOS Setup Utility   |   |
|---|---|
| <ul style="list-style-type: none"> <li>▶ Standard CMOS Features</li> <li>▶ Advanced BIOS Features</li> <li>▶ Advanced Chipset Features</li> <li>▶ Integrated Peripherals</li> <li>▶ Power Management Setup</li> <li>▶ PnP/PCI Configurations</li> </ul> | <ul style="list-style-type: none"> <li>▶ PC Health Status</li> <li>Load Optimized Defaults</li> <li>Set Supervisor Password</li> <li>Set User Password</li> <li>Save &amp; Exit Setup</li> <li>Exit Without Saving</li> </ul> |
| Esc : Quit  | ↑ ↓ → ← : Select Item   |
| F10 : Save & Exit Setup   |   |
| Time, Date, Hard Disk Type...   |   |

This screen provides access to the utility's various functions.

Listed below is explanation of the keys displayed at the bottom of the screen:

<ESC>: Exit the utility.

<↑ ↓ → ←>: Use arrow keys ↑ ↓ → ← to move cursor to your desired selection.

<F1> : General Help

<F10>: Saves all changes made to Setup and exits program.

**Standard CMOS Setup:** Use this menu for basic system configurations.

**Advanced BIOS Features:** Use this menu to set the Advanced Features available on your system.

**Advanced Chipset Features:** Use this menu to change the values in the chipset registers and optimizes your system's performance.

**Integrated Peripherals:** Use this menu to specify your settings for integrated peripherals.

**Power Management Setup:** Use this Menu to specify your settings for power management.

**PnP/PCI Configurations:** This entry appears if your system supports PnP/PCI.

**PC Health Status:** This entry shows your PC health status. If Hardware Monitor Chipset is installed.

**Load Optimized Defaults:** Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

**Set Supervisor Password:** Use this menu to set Supervisor Passwords.

**Set User Password:** Use this menu to set User Passwords.

**Save & Exit Setup:** Save CMOS value changes to CMOS and exit setup.

**Exit Without Saving:** Abandon all CMOS value changes and exit setup.

### 3.3 Standard CMOS Setup

When you select the "STANDARD CMOS SETUP" on the main program, the screen display will appear as:

#### Standard CMOS Setup Screen

Phoenix - Award BIOS CMOS Setup Utility

#### Standard CMOS Features

|                        |                      |  |
|------------------------|----------------------|--|
| Date (mm:dd:yy)        | Wed, Oct 07, 2005    | Item Help                                  |
| Time (hh:mm:ss)        | 13 : 25 : 38         | Menu Level ▶                               |
| ▶ IDE Primary Master   | [ None]              | Change the day, month,<br>year and century |
| ▶ IDE Primary Slave    | [ None]              |  |
| ▶ IDE Secondary Master | [ None]              |  |
| ▶ IDE Secondary Slave  | [ None]              |  |
| Drive A                | [None]               |  |
| Drive B                | [None]               |  |
| Halt On                | [All , But Disk/Key] |  |
| Base Memory            | 640K                 |  |
| Extended Memory        | 121856K              |  |
| Total Memory           | 122880K              |  |

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

The Standard CMOS Setup utility is used to configure the following components such as date, time, hard disk drive, floppy drive, display and memory. Once a field is highlighted, on-line help information is displayed in the left bottom of the Menu screen.

**Set Date:** Month, Date, and Year.

**Set Time:** Hour, Minute and Second. Use 24-hour clock format (for p.m. time, add 12 to the hour number, e.g. you would enter 4:30 p.m. as 16:30). When you select the "STANDARD CMOS SETUP" on the main program, the screen display will appear as:

**Primary Master / Primary Slave**

**Secondary Master / Secondary Slave:** Press PgUp / <+> or PgDn / <-> to select Manual, None, Auto type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Manual to define your own drive type manually.

If you select Manual, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is SCSI, the selection shall be "None"

If the controller of HDD interface is CD-ROM, the selection shall be "None"

Here is a brief explanation of drive specifications:

- **Access Mode:** The settings are Auto, Normal, Large, and LBA.
- **Cylinder:** Number of cylinders
- **Head:** Number of heads
- **Precomp:** Write precom
- **Landing Zone:** Landing Zone
- **Sector:** Number of sectors

**Drive A and Drive B:** Select the correct specifications for the diskette drive(s) installed in the computer.

|               |  |
|---------------|--|
| None          | No diskette drive installed                                  |
| 360K, 5.25 in | 5-1/4 inch PC-type standard drive; 360 kilobyte capacity     |
| 1.2M, 5.25 in | 5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity |
| 720K, 3.5in   | 3 1-2 inch double-sided drive; 720 kilobyte capacity         |
| 1.44M, 3.5 in | 3 1-2 inch double-sided drive; 1.44 megabyte capacity        |
| 2.88M, 3.5 in | 3 1-2 inch double-sided drive; 2.88 megabyte capacity        |

- Note:
1. Not Installed could be used as an option for diskless workstations.
  2. Highlight the listing after each drive name and select the appropriate entry.

**Halt On:** During the power-on-self-test (POST), the computer stops if the BIOS detect a hardware error. You can tell the BIOS to ignore certain errors POST and continue the boot-up process. These are the selections:

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

### 3.4 Advanced BIOS Features Setup

When you select the “BIOS FEATURES SETUP” on the main program, the screen display will appear as:

#### BIOS Features Setup Screen

Phoenix - Award BIOS CMOS Setup Utility

#### Advanced BIOS Features

|                             |               | Item Help   |
|-----------------------------|---------------|---|
| Virus Warning               | [Disabled]    | Menu Level (<br>Allow you to choose<br>the VIRUS warning<br>feature for IDE Hard<br>Disk boot sector<br>protection. If this<br>function is enabled<br>and someone attempt<br>to write data into this<br>area, BIOS will show<br>a warning message on<br>screen and alarm beep |
| Quick Power On Self Test    | [Enabled]     |   |
| First Boot Device           | [Floppy]      |   |
| Second Boot Device          | [CDROM]       |   |
| Third Boot Device           | [HDD-0]       |   |
| Boot Other Device           | [Enabled]     |   |
| Swap Floppy Drive           | [Disabled]    |   |
| Floppy Disk Access Control  | [R/W]         |   |
| Boot Up NumLock Status      | [On]          |   |
| Security Option             | [Setup]       |   |
| PS/2 Mouse Function Control | [Enabled]     |   |
| HDD S.M.A.R.T Capability    | [Enabled]     |   |
| Video BIOS Shadow           | [Enabled]     |   |
| ▶ Shadow Areas              | [Press Enter] |   |
| Full Screen LOGO Show       | [Disabled]    |   |

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

The following explains the options for each of the features as listed in the above menu:

**Virus Warning:** The default setting of Virus Warning is “Disabled”. When it is enabled, any attempt to write the boot sector and partition table will halt the system and cause a warning message to appear. If this happens, you can use an anti-virus utility on a virus free, bootable floppy diskette to reboot, to clean and to investigate your system.

**Quick Power On Self Test:** The default setting is “Enabled”. This speeds up the Power On Self Test (POST) by skipping some items that are normally checked during the full POST. If your system is functioning normally, you can choose this feature to speed up the booting process.

**First / Second / Third / Other Boot Device:** The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The settings are Floppy, LS/ZIP, HDD-0/HDD-1/HDD-2/HDD-3, SCSI, CDROM, LAN, and Disabled.

**Swap Floppy Drive:** The default setting is "Disabled". This setting gives you an option to swap A and B floppy disks. Normally, the floppy drive A is the one at the end of the cable and drive B is at the other end. If you set this option to "Enabled", the Drive A will function as Drive B, and vice-versa under the DOS.

**Floppy Disk Access Control:** This option specifies the read/write access that is set when booting from a floppy drive.

**Boot Up NumLock Status:** The default setting is "On". If it set "Off" the cursor controls will function on the numeric keypad.

**Security Option:** This setting controls the password in the main screen. The options are "Setup" and "System". Select "Setup" and it will protect the Setup Utility settings from being tampered with. Select "System" if you want to use password feature every time the system boots up. The default setting is "Setup". You can create your password by using the "SUPERVISOR/USER PASSWORD" utility on the main program screen.

**PS/2 Mouse Function Control:** This option enable Award BIOS support for a PS/2-type mouse.

**HDD S.M.A.R.T Capability:** SMART (Self-Monitoring, Analysis, and Reporting Technology) is a technology developed to manage disk drive reliability by predicting device failures. Award BIOS can warn of possible device failure, allowing time for backups or drive replacement.

**Video BIOS Shadow:** The default setting is "Enabled" which will copy the VGA display card BIOS into system DRAM to improve performance.

**Shadow Areas to DC000-DFFFF Shadow:** The default setting for the shadow feature is "Disabled". When enabled, the ROM with the specific address is copied into system DRAM. It will also reduce the size of memory available to the system. After you have made your selection in the BIOS FEATURES SETUP, press the <ESC> key to go back to the main program screen.

### 3.5 Advanced Chipset Features Setup

When you select the "CHIPSET FEATURES SETUP" on the main program, the screen display will appear as:

#### Chipset Features Setup Screen

Phoenix - Award BIOS CMOS Setup Utility

#### Advanced Chipset Features

|   |                         | Item Help            |
|---|-------------------------|----------------------|
|   | DRAM Timing By SPD      | [Disabled]           |
|   | DRAM Clock              | [HCLK+33M]           |
|   | SDRAM Cycle Length      | [3]                  |
|   | Bank Interleave         | [Disabled]           |
|   | Memory Hole             | [Disabled]           |
|   | P2C/C2P Concurrency     | [Enabled]            |
|   | System BIOS Cacheable   | [Disabled]           |
|   | Video RAM Cacheable     | [Disabled]           |
|   | Frame Buffer Size       | [8M]                 |
|   | AGP Aperture Size       | [64M]                |
|   | AGP-4X Mode             | [Enabled]            |
|   | AGP Driving Control     | [Auto]               |
| X | AGP Driving Value       | [DA]                 |
|   | Panel Type              | [800×600 TFT (LVDS)] |
|   | CPU to PCI Write Buffer | [Enabled]            |
|   | PCI Dynamic Bursting    | [Enabled]            |
|   | PCI Master 0 WS Write   | [Enabled]            |
|   | PCI Delay Transaction   | [Disabled]           |
|   | PCI#2 Access #1 Retry   | [Enabled]            |
|   | AGP Master 1 WS Write   | [Disabled]           |
|   | AGP Master 1 WS Read    | [Disabled]           |

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

**Spread Spectrum:** When the system clock generator pulses, the extreme values of the pulse generate excess EMI. Enabling pulse spectrum spread modulation changes the extreme values from spikes to flat curves, thus reducing EMI. This benefit may in some cases be outweighed by problems with timing-critical devices, such as a clock-sensitive SCSI device.

**Onboard Lan Boot ROM:** Unless you intend to boot using PXE Enabled/Disabled.

**DRAM Timing By SPD:** This item allows you to select the value in this field, depending on whether the board has paged DRAMs or EDO (extended data output) DRAMs.

**Memory Hole:** In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

|                    |                           |
|--------------------|---------------------------|
| Enabled            | Memory hole supported     |
| Disabled (default) | Memory hole not supported |

**P2C / C2P Concurrency:** This item allows you to Enable or Disable the PCI to CPU, CPU to PCI concurrency. The default setting is "Enabled".

**System BIOS Cacheable:** Selecting "Enabled" allows caching of the system BIOS ROM at F0000h - FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. The settings are "Enabled" and "Disabled".

**Video RAM cacheable:** The choices: Enabled, Disabled (Default).

**Frame Buffer Size:** The choices: 2M, 4M, 8M(Default), 16M, and 32M.

**AGP Aperture Size:** Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

**AGP-4X Mode:** Setting AGP rate to 4X or 2X.

**AGP Driving Control:** This item allows you to adjust the AGP driving force. Choose Manual to key in an AGP Driving Value in the next selection. This field is recommended to set in "Auto" for avoiding any error in your system. The default setting is "Auto".

**AGP Driving Value:** This item allows you to adjust the AGP driving force.

**Panel Type:** Please select the type of panel you are incorporating with our single board computer. Consult your panel manual for detail information.

**CPU to PCI Write Buffer:** When this field is "Enabled", writes from the CPU to the PCI bus is buffered, to compensate for the differences between the CPU and the PCI bus. When disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another cycle. The default setting is "Enabled".

**PCI Dynamic Bursting:** This item allows you to enable or disable the PCI dynamic bursting function. The settings are "Enabled" or "Disabled".

**PCI Master 0 WS Write:** When enabled, writes to the PCI bus and are executed with zero wait states. The settings are "Enabled" or "Disabled".

**PCI Delay Transaction:** The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select "Enabled" to support compliance with PCI specification version 2.1. The settings are "Enabled" or "Disabled".

**PCI#2 Access #1 Retry:** When disabled, PCI#2 will not be disconnected until access finishes. When enabled, PCI#2 will be disconnected if max retries are attempted without success. The default setting is "Enabled".

**AGP Master 1 WS Write:** Implements a single delay when writing from the AGP Bus. Normally, two wait states are used, allowing for greater stability, but check with your motherboard manufacturer to see if they have already implemented a Master latency of zero, in which case the lowest writing here of 1 will reduce performance.

**AGP Master 1 WS Read:** Implements a single delay when reading from the AGP Bus. Normally, two wait states are used, allowing for greater stability, but check with your motherboard manufacturer to see if they have already implemented a Master latency of zero, in which case the lowest reading here of 1 will reduce performance.

### 3.6 Integrated Peripherals

When you select the "INTEGRATED PERIPHERALS" on the main program, the screen display will appear as:

#### Integrated Peripherals Setup Screen

Phoenix – Award BIOS CMOS Setup Utility

#### Integrated Peripherals

|                           |               |   |              |
|---------------------------|---------------|---|--------------|
| On-Chip USB               | [Enabled]     |   | Item Help    |
| USB Keyboard Support      | [Disabled]    | ▲ | Menu Level ► |
| USB Mouse Support         | [Disabled]    |   |              |
| OnChip IDE Channel0       | [Enabled]     |   |              |
| OnChip IDE Channel1       | [Enabled]     |   |              |
| IDE Prefetch Mode         | [Enabled]     |   |              |
| Init Display First        | [Add-On Card] |   |              |
| Onboard Lan Boot ROM      | [Disabled]    |   |              |
| Onboard FDD Controller    | [Disabled]    |   |              |
| Onboard Serial Port 1     | [Disabled]    |   |              |
| Onboard Serial Port 2     | [Disabled]    |   |              |
| UART 2 Mode               | Standard      |   |              |
| X IR Function Duplex      | Half          |   |              |
| X TX, RX inverting enable | No, Yes       |   |              |
| X Onboard Parallel Port   | [Disabled]    |   |              |
| Parallel Port Mode        | [Normal]      |   |              |
| X ECP Mode Use DMA        | 3             |   |              |
| X                         |               |   |              |

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

**On-Chip Primary PCI IDE:** The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface. The settings are "Enabled" and "Disabled".

**On-Chip Secondary PCI IDE:** The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this interface. The settings are "Enabled" and "Disabled".

**USB Controller:** Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals

**USB Keyboard/Mouse Support:** Set this option to "Enabled" or "Disabled" the USB keyboard/ mouse support. The default setting is "Disabled".

**AC97 Audio:** This option sets the AC97 Audio.

**Onboard FDD Controller:** Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you want to use it. If you install add-in FDC or the system has no floppy drive, select Disabled in this field. The settings are "Enabled" and "Disabled".

**Onboard Serial Port 1 / Port 2:** Select an address and corresponding interrupt for the first and second serial ports. The settings are "3F8/IRQ4", "2E8/IRQ3", "3E8/IRQ4", "2F8/IRQ3", "Disabled", "Auto".

**UART 2 Mode:** This item allows you to select which mode for the Onboard Serial Port 2. The settings are "Standard", "HPSIR", and "ASKIR".

**IR Function Duplex:** This item allows you to select the IR half/full duplex function.

**TX, RX inverting enable:** This item allows you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

**Onboard Parallel Port:** This item allows you to determine onboard parallel port controller I/O address setting. The settings are "378H/IRQ7", "278H/IRQ5", "3BC/IRQ7", and "Disabled".

**Parallel Port Mode:** There are four options "Normal" (default), "ECP", "ECP/EPP" and "EPP/SPP". Change the mode from "Normal" to the enhanced mode only if your peripheral device can support it. When it is set to ECP mode, the printer port always uses DMA3.

**ECP Mode Use DMA:** Select a DMA channel for the parallel port for use during ECP mode. The settings are "3" and "1".

### 3.7 Power Management Setup

The "Power Management Setup" controls the CPU card's "Green" features. When you select the "POWER MANAGEMENT SETUP" on the main program, the screen display will appear as:

#### Power Management Setup Screen

Phoenix – Award BIOS CMOS Setup Utility

#### Power Management Setup

|                           |                    |              |
|---------------------------|--------------------|--------------|
| ▶ Power Management        | [Press Enter]      | Item Help    |
| ACPI function             | [Enabled]          | Menu Level ▶ |
| Video Off Option          | [Suspend -> Off]   |              |
| Video Off Method          | [V/H SYNC + Blank] |              |
| PM Control by APM         | [Yes]              |              |
| Soft-Off by PWR-BTN       | [Instant-Off]      |              |
| PwrOn After AC Power Loss | [Off]              |              |
| Wake Up Events            | [Press Enter]      |              |

↑ ↓ → ← Move    Enter: Select    +/-/PU/PD: Value    F10: Save    Esc: Exit    F1: General Help

F5: Previous Values

F7: Optimized Defaults

**ACPI Function:** This item allows you to enable or disable the Advanced Configuration and Power Management (ACPI). The settings are "Enabled" and "Disabled".

#### **Power Management:**

|                   |   |
|-------------------|---|
| Min. Power Saving | Minimum power management. Doze Mode=1hr. Standby Mode =1hr., Suspend Mode=1hr., and HDD Power Down=15min.   |
| Max. Power Saving | Maximum power management. –Only available for SL CPU's. Doze Mode=1min., Standby Mode=1min., Suspend Mode=1min., and HDD Power Down=1min.   |
| User Defined      | Allow you to set each mode individually. When not disabled, each of the ranges is from 1 min. to 1 hr. except for HDD Power Down, which ranges from 1 min. to 15 min. and disabled. |

**Video Off Option:** This option is for choosing the setting in which the monitor will turn off. The default setting is "Suspend".

|           |  |
|-----------|--|
| Always On | Always turn on.  |
| Suspend   | During Suspend mode, the monitor will be turned off.   |
| All Modes | During All Modes mode, the monitor will be turned off. |

**Video Off Method:** This determines the manner in which the monitor is blanked. The default setting is "V/H SYNC+Blank".

|                |   |
|----------------|---|
| V/H SYNC+Blank | This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blank to the video buffer. |
| Blank Screen   | This option only writes blanks to the video buffer.   |

**Soft-Off by PWR-BTN:** When you select Instant Off or Delay 4 Sec., turning the system off with the on/off button places the system in a very low-power-usage state, either immediately or after 4 seconds, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.

**PwrOn After AC Power Loss:** This option specifies the Power ON/OFF Status after AC power loss.

### 3.8 PnP/PCI Configuration

Both the ISA and PCI buses on the CPU card use system IRQs & DMAs. You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configuration Setup utility; otherwise the motherboard will not work properly.

#### PnP/PCI Configuration Setup Screen

Phoenix – Award BIOS CMOS Setup Utility

#### PnP/PCI Configurations

|                          |               |   |
|--------------------------|---------------|---|
| PNP OS Installed         | [Yes]         | Item Help   |
| Reset Configuration Data | [Disabled]    | Menu Level ►<br>Select Yes if you are using a Plug and Play capable operating system. Select No if you need the BIOS to configure non-boot devices. |
| Resources Controlled By  | [Manual]      |   |
| ► IRQ Resources          | [Press Enter] |   |
| ► DMA Resources          | [Press Enter] |   |
| PCI/VGA Palette Snoop    | [Disabled]    |   |
| Assign IRQ For VGA       | [Enabled]     |   |
| Assign IRQ For USB       | [Enabled]     |   |

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

**PNP OS Installed:** When set to “Yes”, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows® 95 or 98. When set to “No”, BIOS will initialize all the PnP cards. So, for non-PnP operating system (DOS, Netware®), this option must set to “Yes”.

**Reset Configuration Data:** Normally, you leave this field “Disabled”, Select “Enabled” to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot. The settings are: “Enabled and Disabled”.

**Resource 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. 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 " "). The settings are "Auto (ESCD)", "Manual".

**IRQ Resources:** When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt.

|        |             |                | Item Help  |
|--------|-------------|----------------|--|
| IRQ-3  | assigned to | [Legacy ISA]   | Menu Level ►►<br>Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture. |
| IRQ-4  | assigned to | [Legacy ISA]   |  |
| IRQ-5  | assigned to | [PCI /ISA PnP] |  |
| IRQ-7  | assigned to | [Legacy ISA]   |  |
| IRQ-9  | assigned to | [PCI /ISA PnP] |  |
| IRQ-10 | assigned to | [PCI /ISA PnP] |  |
| IRQ-11 | assigned to | [PCI /ISA PnP] |  |
| IRQ-12 | assigned to | [PCI /ISA PnP] |  |
| IRQ-14 | assigned to | [PCI /ISA PnP] |  |
| IRQ-15 | assigned to | [PCI /ISA PnP] |  |

**DMA Resources:** The sub menu can let you control the DMA resource.

|       |             |                | Item Help  |
|-------|-------------|----------------|--|
| DMA-0 | assigned to | [PCI /ISA PnP] | Menu Level ►►<br>Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture. |
| DMA-1 | assigned to | [PCI /ISA PnP] |  |
| DMA-3 | assigned to | [PCI /ISA PnP] |  |
| DMA-5 | assigned to | [PCI /ISA PnP] |  |
| DMA-6 | assigned to | [PCI /ISA PnP] |  |
| DMA-7 | assigned to | [PCI /ISA PnP] |  |

**PCI/VGA Palette Snoop:** Leave this field at "Disabled". The settings are "Enabled", "Disabled".

### 3.9 PC Health Status (Optional)

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages. It is recommended that you contact your EBC supplier to get proper value about your setting of the CPU temperature.

Phoenix – Award BIOS CMOS Setup Utility

PC Health Status

|                       |          |              |
|-----------------------|----------|--------------|
| Current System Temp.  | 52 / 125 | Item Help    |
| Current CPU Temp.     | 45 / 113 | Menu Level ► |
| Current CPUFAN1 Speed | 0 RPM    |              |
| Vcore                 | 0.97 V   |              |
| +2.5V                 | 2.51 V   |              |
| +3.3V                 | 3.27 V   |              |
| +5V                   | 5.05 V   |              |
| +12V                  | 12.30 V  |              |

↑ ↓ → Move    Enter: Select    +/-/PU/PD: Value    F10: Save    Esc: Exit    F1: General Help  
 F5: Previous Values    F7: Optimized Defaults

**Current CPU Temperature:** This item shows the CPU temperature.

**Current System Temperature:** This item displays the value of system temperature.

**Current CPUFAN1 Speed:** This item displays the value of FAN1 speed.

**Vcore:** This item shows the current system voltage.

### 3.10 Load Optimized Defaults

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

Load Optimized Defaults (Y/N)? N

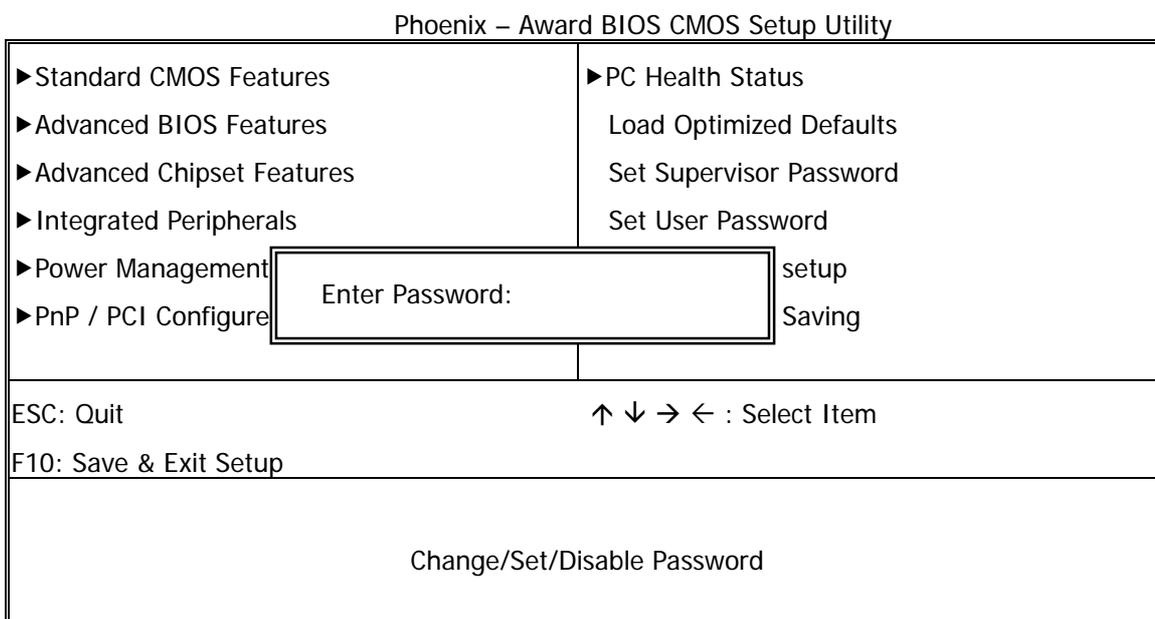
Pressing "Y" loads the default values that are factory settings for optimal performance system operations.

Phoenix – Award BIOS CMOS Setup Utility

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>▶ Standard CMOS Features</li> <li>▶ Advanced BIOS Features</li> <li>▶ Advanced Chipset Features</li> <li>▶ Integrated Peripherals</li> <li>▶ Power Management</li> <li>▶ PnP / PCI Configure</li> </ul> | <ul style="list-style-type: none"> <li>▶ PC Health Status</li> <li>Load Optimized Defaults</li> <li>Set Supervisor Password</li> <li>Set User Password</li> </ul> |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;">Load Optimized Defaults (Y/N)? N</div>  |   |
| setup<br>Saving  |   |
| ESC: Quit<br>F10: Save & Exit Setup  |   |
| ↑ ↓ → ← : Select Item  |   |
| Load Optimized Defaults  |   |

### 3.11 Set Supervisor / User Password

The "SUPERVISOR/USER PASSWORD" utility sets the password. The SBC is shipped with the password disabled. If you want to change the password, you must first enter the current password, and then at the prompt -- enter your new password. The password is case sensitive, and can be up to 8 alphanumeric characters. Press <Enter> after you have finished typing in the password. At the next prompt, confirm the new password by re-typing it and pressing <Enter> again. When you are done, the screen automatically reverts to the main screen. Remember that when you use this feature, the "Security Option" line in BIOS FEATURES SETUP will determine when entering the password will be required.



**To disable the password**, press the <Enter> key instead of entering a new password when the "Enter Password" in the dialog box appears. A message will appear confirming that the password is disabled.

If you have set both supervisor and user password, only the supervisor password allows you to enter the BIOS SETUP PROGRAM.

Note: If you forget your password, the only way to solve this problem is to discharge the CMOS memory.



### 3.13 Exit Without Saving

Select this option and press the <Enter > key to exit the Setup Utility without recording any new values or changing old ones.

Phoenix – Award BIOS CMOS Setup Utility

|   |  |
|---|--|
| <ul style="list-style-type: none"><li>▶ Standard CMOS Features</li><li>▶ Advanced BIOS Features</li><li>▶ Advanced Chipset Features</li><li>▶ Integrated Peripherals</li><li>▶ Power Management</li><li>▶ PnP / PCI Configure</li></ul> | <ul style="list-style-type: none"><li>▶ PC Health Status</li><li>Load Optimized Defaults</li><li>Set Supervisor Password</li><li>Set User Password</li></ul> |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;">Quit Without Saving (Y/N)? N</div>   |  |
| setup<br>Saving   |  |
| ESC: Quit   |  |
| ↑ ↓ → ←: Select Item  |  |
| F10: Save & Exit Setup  |  |
| Abandon all Data  |  |

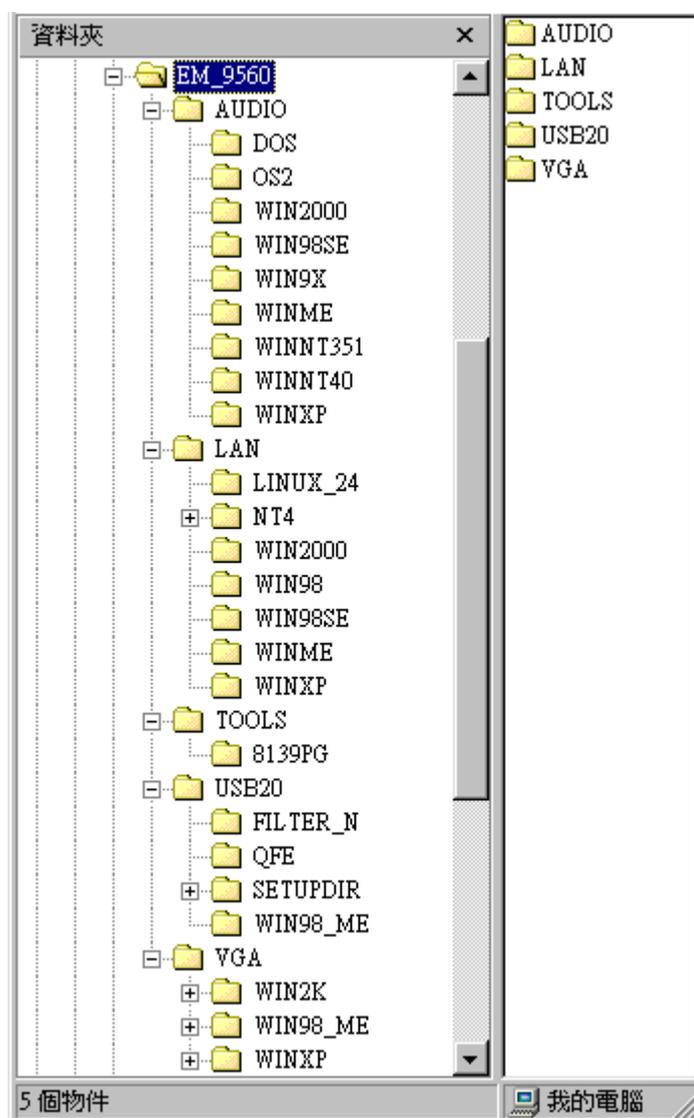
## Chapter 4 Drivers Support

### 4.1 Use Your Driver CD-ROM

This chapter provides information on how to install the drivers in generally and related directory that come with the CD-ROM in the package. Please follow the instructions set forth on the screen carefully.

1. Find the directory for your O/S accordingly.
2. Always read the README.TXT before installation
3. Run the \*.EXE and follow the installation prompt step by step.

### 4.2 File Directory



**Note:** Windows Windows XP and ME should optimally configure the VIA chipset. Not need to run VIA Chipset Software Installation Utility.

## APPENDIXA. Watch-Dog Timer

To use the watch-dog timer:

**Step 1.** Enable and re-trigger the Watchdog timer: Output port **443H**

**Step 2.** Disable : Output port **441H**

### EX.1: For DOS

Execute the **DEBUG.EXE** file under DOS, Then key-in **0443**. The system will reboot automatically according to the time-out you set.

#### Enable

```
C:\DOS> DEBUG
O 443 0~F
```

#### Disable

```
C:\DOS> DEBUG
O 441 0~F
```

### EX.2: For assemble Language

#### Enable:

```
:
:
MOV DX, 443H
OUT DX, AL
:
:
```

#### Disable:

```
:
:
MOV DX, 441H
OUT DX, AL
:
```

# Terms and Conditions

---

Date: 2005.10.07

## Warranty Policy

1. All products are warranted against defects in materials and workmanship on a period of two years from the date of purchase by the customer.
2. The buyer will bear the return freight charges for goods that are returned for repair within the warranty period whereas manufacturer will bear the other way after repair.
3. The buyer will pay for repair (for the replaced materials plus service time) and transportation charges (both ways) for items after the expiration of the warranty period.
4. If the RMA Service Request Form does not meet the stated requirement as listed on "RMA Service", RMA goods will be returned at the customer expense.
5. The following conditions are excluded from this warranty ..
  - A. Improper or inadequate maintenance by the customer.
  - B. Unauthorized modification or misuse.
  - C. Operation outside of the environmental specifications for the product.

## RMA Service

### **1. Request a RMA#:**

Complete and fax to Supplier the "RMA Request Form" to obtain a RMA number.

### **2. Shipping:**

- A. The customer is requested to fill up the problem code as listed. If none of the code is selected, please write the symptom description on the remark.
- B. Ship the defective units with freight prepaid.
- C. Mark the RMA # clearly on the box.
- D. Shipping damage as a result of inadequate packing is the customer's responsibility.
- E. Use the original packing materials whenever possible.

### **3. All RMA# are valid for 30 days only:**

When RMA goods are received after valid RMA# period, the goods will be reject

## RMA Service Request Form

When requesting RMA service, please fill out this "RMA Service Request Form".

**Without this form your RMA will be REJECTED!!!**

| <b>RMA No:</b>   | Reasons to Return: | Repair(Please include failure details)<br>Testing Purpose |               |
|--|--------------------|---|---------------|
| Company:   | Contact Person:    |   |               |
| Phone No.  | Purchased Date:    |   |               |
| Fax No.:   | Applied Date:      |   |               |
| Return Shipping Address: _____   |                    |   |               |
| Shipping by:    Air Freight        Sea        Express : _____        Others: _____ |                    |   |               |
| _____  |                    |   |               |
| Item   | Model Name         | Serial Number   | Configuration |
|  |                    |   |               |
|  |                    |   |               |
|  |                    |   |               |
|  |                    |   |               |
|  |                    |   |               |
|  |                    |   |               |
|  |                    |   |               |
|  |                    |   |               |

| Item | Problem Code | Failure Status |
|------|--------------|----------------|
|      |              |                |
|      |              |                |
|      |              |                |
|      |              |                |
|      |              |                |
|      |              |                |
|      |              |                |
|      |              |                |

**\*Problem Code:**

- |                        |                              |                    |                          |
|------------------------|------------------------------|--------------------|--------------------------|
| 01: D.O.A.             | 07: BIOS Problem             | 13: SCSI           | 19: DIO                  |
| 02: Second Time R.M.A. | 08: Keyboard Controller Fail | 14: LPT Port       | 20: Buzzer               |
| 03: CMOS Data Lost     | 09: Cache RMA Problem        | 15: PS2            | 21: Shut Down            |
| 04: FDC Fail           | 10: Memory Socket Bad        | 16: LAN            | 22: Panel Fail           |
| 05: HDC Fail           | 11: Hang Up Software         | 17: COM Port       | 23: CRT Fail             |
| 06: Bad Slot           | 12: Out Look Damage          | 18: Watchdog Timer | 24: Others (Pls specify) |

***Request Party***

***Confirmed By Supplier***

***Authorized Signatures / Date***

***Authorized Signatures / Date***