# CV700A / CV702A
# 400MHz FSB / VGA / LAN / Sound

**400MHz FSB .  All-in-one**

**Sound .  3 LAN**

**SATA150 . ATA 33/66/100 . USB . IrDA . CF**

**Multi- LAN Board**

# Contents

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# Chapter-1

## General Information

The CV700A is a Light form factor All-In-One Multimedia control Board. The board design combines all necessary input and output effects interfaces, which makes itself an ideal all-in-one control board for Networking Application. The board is designed with 400 MHz internal bus clock rate architecture.

The CV700A All-In-One motherboard uses VIA CN700 ( CN700 and VT8237R Plus) chipset, built-in VIA Eden(V4) / C7(V4) EBGA CPU, VGA and Audio feature onboard and supports , built-in multi-LAN options . The board is also designed with AC97 2.1 sound interface which provides an ideal sound adapter in any audio application. This board offers the superb performance and PC specification in the industry.

The motherboard is fully compatible with industry standards, adding many technical enhancements, and is fully compatible with thousands of software applications developed for IBM PC/AT compatible computers.  The control logic provides high-speed performance for the most advanced multiuser, multitasking applications available today.

With DMA33/66/100 and SATA150 access of mode 4 to IDE drive interface architecture, the IDE interface supports maximum 100 MB/sec ( IDE) and 150 MB/sec (SATA) data transfer rate to 2 pieces of IDE drive connection and 1 piece of SATA Driver connection. Compact Flash Reader supports IDE/ ATA interface.

A single Flash chip holds the system BIOS, and you can change the Flash BIOS by the Utility Update. Advanced IR port also provides a faster data transmission.

CV700A board is designed with CN700 intergrated graphic VGA controller which provides connection to VGA Monitor . VGA Controller is 128-bit single cycle 2D/3D graphic engine which supports up to 1600x1200 extended screen resolutions and also real time DVD MPEG-2 and AC3 playback.
The CV700A Board supports DDR2 RAM memory with one unbuffered double-sided DIMMs up to 1GB

# 1-1 Major Feature

1.  VIA Eden (V4) nano BGA2 500MHz CPU/ VIA C7 nano BGA2 1GHz CPU
2.  VIA CN700 chipset (CN700 + VT8237R Plus)
3.  One DDR2 400/533 DRAM unbuffered double-sided DIMMs up to 1GB
4.  Dual channel master mode PCI support four IDE disk drives  DMA 33/66/100 controller
    One Channle SATA 150 Connector
5.  400 MHz system clock support
6.  Versatile storage device:
    *   One 50-pin Compact Flash socket
    *   One 40-pin DOM
    *   One 2.5" HDD
    *   One SATA HDD
7.  On board CN700 graphic controller integrated graphics
8.  On board multi-LAN option*:
    *   CV700A-3R ----3 x Realtek 8100C  10/100 Mb
    *   CV700A-3G ----3 x Realtek 8110SC 10/100/1000 Mb
    *   CV700A-3U ----3 x Intel 82541GI/PI/ER 10/100/1000 Mb
9. Compact Flash Reader Type I/II for IDE/ATA interface
10. Two serial RS232 Ports
11. One enhanced bi-directional parallel ports (SPP/ECP/EPP)
12. On board mini PS/2 Keyboard/Mouse connector
13. On board Sound, AC97 2.1
14. DC 12V-IN Power Adapter support

*The models mentioned above are standard models currently.
The multi-LAN option might change due to customization.

# 1-2 Specification

**1.CPU:** VIA Eden (V4) nano BGA2 500 MHZ CPU / VIA C7 (V4) nano BGA2 1GHz CPU

**2. Cache Memory:** Integrated full-speed 128KB  L1/L2 cache

**3.Chipset:** VIA CN700 (North:CN700 ;South:VT8237R Plus)

**4. Memory:** One DIMM socket up to 1GB DDR2 400/533 DRAM

**5. VGA:** CN700 integrated graphic controller ; support 128-bit 2D/3D display up to
1600x1200, memory sharable up to 64MB

**6. I/O Chipset:** VIA VT1211IO

**7. IDE:** four IDE disk drives; support DMA33/66/100 transfer rate up to  33/66/100 MB/sec
SATA : 1 SATA disk drivers ; support SATA150 MB/sec

**8. LAN:**    * CV700A-3R ----3 x Realtek 8100C  10/100 Mb ( Wake-On-Lan) for LAN1
* CV700A-3G ----3 x Realtek 8110SC 10/100/1000 Mb
* CV700A-3U ----3 x Intel 82541GI/PI/ER 10/100/1000 Mb

**9. Storage devices:**  * One 50-pin Compact Flash socket
* One 40-pin DOM
* One 2.5" HDD
* One SATA HDD

**10. Parallel Port:** 1 parallel port ; Support SPP/ECP/EPP

**11. Serial Port:** Two serial ports ; Support RS-232

**12. IR:** One IrDA TX/RX header

**13. USB:** Support Six USB ports

**14. Keyboard:** PS/2 6-pin Mini Din

**15. Mouse:** PS/2 6-pin Mini Din

**16. Sound:** AC97 2.1 Sound, full-duplex

**17. BIOS:** Award BIOS version 6.1

**18. Form Factor:** LIGHT Board, 200x150mm

**19. Power:** DC12V-IN power Adapter input

**21. Power Voltage:** +12V (11.4V to 12.6V)

**22. Power Consumption:** Please refer to page 57

# 1-3 Hardware Notice Guide

1. Before installing the power supply with this motherboard, please attach the 12V/DC
   ( 4 pin connector )of the adapter to motherboard first.
   After that, plug the adapter power to AC outlet.
   Always normally shut down the computer before you move the system unit or remove
   the power supply from the motherboard.
   Please unplug the 12V/DC ( 4 pin connector ) of the adapter from motherboard first.
   Then unplug the adapter from the AC outlet.
   Please refer to procedure from the photo 1
2. There will be high possibility to burn out the CPU if you change/ modify any parts of the
   CPU cooler.
3. Please wear wrist strap and attach it to a metal part of the system unit before handling a
   component.
   You can also touch an object that is of ground connection or with metal surface if you don't
   have wrist strap.
4. Please be careful when you handle this product.  Pay attention to & don't touch the
   sharp-pointed components at the bottom PCB .
5. Please pay attention to this: Remove or change any components form the motherboard
   will VOID the warranty of the motherboard you purchased .
6. Before you install/remove any components or make any jumper setting on the motherboard,
   please make sure to disconnect the power first.
   ( Please follow the instructions as of this guide )
7. Please only use single sided Mini PCI card, do not use the double sided Mini PCI card
   which is not suitable.
8. This does not support 16 bit mini PCI card
9. Please follow this instruction carefully when using the "POWERON after PWR-Fair" function.
   When the DC power adaptor runs out of power, unplug it from the DC current;
   when power returns plug it back in only after 5 seconds.  If there is a power outage,
   unplug it from the AC current, when power returns plug it back in only after 30 seconds.
   Otherwise it will cause system locking or serious damage.

   Remark 1:
   Always insert/unplug the 12V/DC ( 4 pin connector ) horizontally & directly from the
   motherboard.
   DO NOT twist the 12V/DC ( 4 pin connector ) gently, it is designed to fit snugly .
   Moreover, erratic pull / push testing with the DC Jack might cause the unpredictable
   damage to the component & system unit.

# Photo 1

**Insert**

**1**

**2**

**3**

**Unplug**

**1**

**2**

**3**
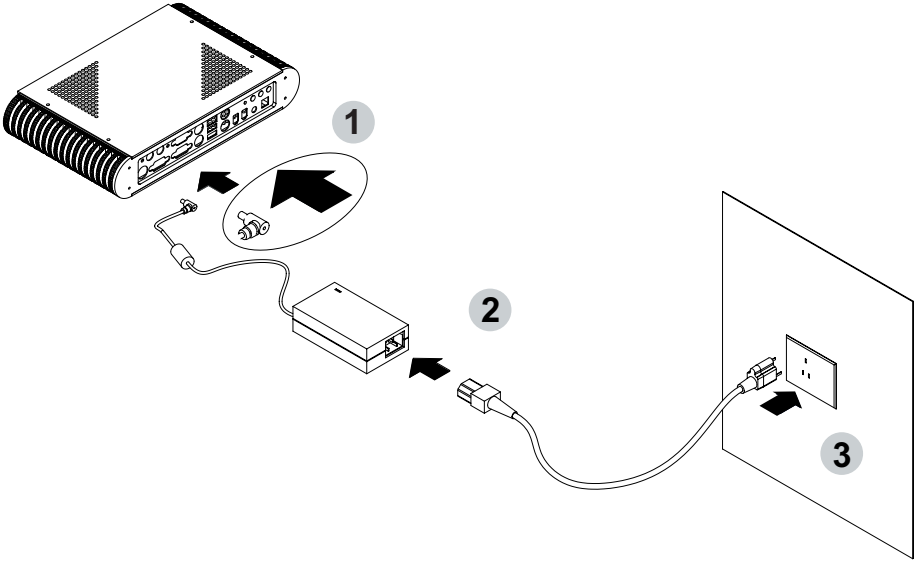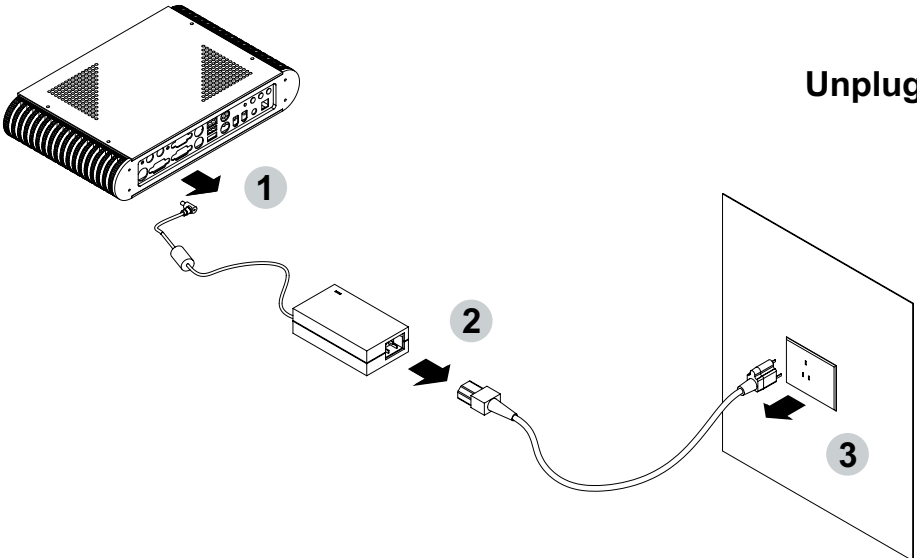
## 1-3-1 Installing the Mini PCI card

1. Align the Mini PCI card with the connector at a 45 degree angle.
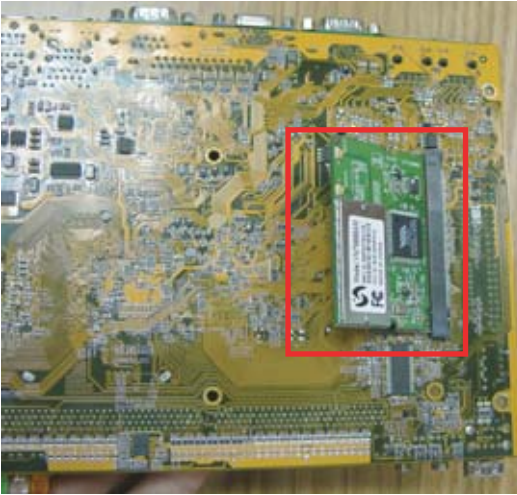


2. Press the Mini PCI into the connector until you hear a click.

Notices:

1. The connectors are designed to ensure the correct insertion. If you feel resistance, check the connectors & golden finger direction, and realign the card.



2. Make sure the retaining clips (on two sides of the slot) lock onto the notches of the card firmly.

# 1-3-1.1 Removing the Mini PCI card

1. Release the Mini PCI card by pulling outward the two retaining clips and the card pops up slightly.



2. Lift the mini PCI card out of its connector carefully.

## 1-4 Packing List\*

① CV700A Board
② DC 12V Power Adapter
③ One ATA 100 Flat Cable (2.54mm)
④ One slim IDE port flat Cable (2.00mm)
⑤ Power Cable

⑥ Utility CD Disk
⑦ User's Manual
⑧ SATA DATE Cable (optional)
⑨ SATA HDD Power Cable (optional)



\*The packing list above is for the users who purchase single motherboard. The users who purchase the board with chassis may refer to the packing list in the Assembly Guide.

> Please contact with your dealer if any of these items is missing or damaged on delivery. And please keep all parts of the delivery package with packing materials in case if you need to deliver or store the product in the future.

# Chapter-2

## Hardware Installation

**This chapter provides the information how to install the hardware of CV700A. Please follow section 1-4, 2-1 and 2-2 to check the delivery package and unpack carefully. Please follow the jumper setting procedure.**

## 2-1 Unpacking Precaution

The CV700A board has been well packed with an anti-static bag to protect its sensitive components and circuitry from damage due to static electric discharge.

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### NOTE!

1. Do not touch the board or any other sensitive components without all necessary anti-static protection.
2. Please pay attention to the voltage limitation of DC-IN12 V $\pm$ 5 %.
   Overuse of  DC-IN voltage  limitation or change to another power adapter
   ( not provided with this system ) will VOID warranty.

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You should follow these
 steps to protect the board from the static electric
discharge whenever you handle the board:

1. Ground yourself by a grounded wrist strap at all times when you handle the CV700A. Well secure the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please put on and connect the strap before handling the CV700A for harmlessly discharge any static electricity through the strap.

2. Please use anti-static pad to put any components, parts, or tools on the pad whenever you work on them outside the computer. You may also use the anti-static bag instead of the pad. Please ask your local supplier for necessary parts on anti-static requirement.

3. Do not plug any connector or set any jumper when the power is on.

## 2-2 Unpacking checkup

First of all, please follow all necessary steps of section 2.1 to protect CV700A
from electricity discharge. With reference to section 1.3, please check the delivery package
again with following steps:

1. Unpack the CV700A board and keep all packing material, manual
   and  driver disc etc, do not dispose !

2. Is there any components lose or drops from the board? DO NOT CONTINUE
   TO INSTALL THIS BOARD!CONTACT THE DEALER YOU PURCHASED THIS
   BOARD FROM, IMMEDIATELY.
3. Is there any visible damage on the board? DO NOT CONTINUE TO INSTALL
   THIS BOARD!CONTACT THE DEALER YOU PURCHASED THIS
   BOARD FROM, IMMEDIATELY.
4. Check your optional parts (i.e. DDR2, CF etc.), all necessary jumpers
   setting to jumper pin-set, and CMOS setup correctly.
   Please also refer to all information of jumper settings in this manual.

5. Check your external devices (i.e. Add-On-Card, Driver Type etc.)
   for complete add-in or connection and CMOS setup correctly.
   Please also refer to all information of connector connection in this manual.

6. Please keep all necessary manual and driver disc in a good condition for future
   re-installation if you change your Operating System.

## 2-3 Dimension 200x150(mm)

## 2-4 Layout



CPU FAN JF2

CN45

JSW1

JR1

CN4
DC12V IN

CN5

JKM1

CN3

CN11

CN7 COM1

CN10

CN13

CN46

JB1

CN2 VGA

JF1
SYS FAN

JI1

CN6 COM2

CN9 LAN2

CN8 LAN3

EBGA CPU

CN700

VT8237R-Plus

BATTERY

CF CARD CN20

LAN3

CN18 IDE2

SW1
JP1
JSL1
PW-LED
JLED1
HDD-LED
LAN-LED

DIMM1

CN16
CN14

CN29
CN26

CN28
CN47
JUSB1
JUSB2

CN27

CN19 IDE1

JCF1

JCF2

CN21

SATA1

## 2-5 Diagram



CPU FAN JF2

JSW1  JR1

CN1 DC12V IN

SW1

CN5

JP1

PW-LED
HDD-LED
LAN-LED

CN3

CN7 COM1

CN10

DIMM1

CN13

JB1

CN16
CN14

CN2 VGA

JI1
JF1 SYS FAN

CN6 COM2

CN20

CN29

CN9 LAN2

CN28

CN47

CN8 LAN3

CN27

CN18 IDE2
JCF1  CN21  SATA1
CN19 IDE1
JCF2

**14**

## 2-5-1 Bottom Side Diagram

**MPCI: Mini PCI Socket**



## . Back Panel (CV700A)



**PS/2 Mouse**
**RJ45 LAN 1**
**Parallel**
**RJ45 LAN 2**
**DC 12V IN**
**USB**
**COM 1**
**VGA**
**COM 2**
**RJ45 LAN 3**
**PS/2 Keyboard**

## . Back Panel (CV702A)



**RJ45 LAN 1**
**RJ45 LAN 2**
**DC 12V IN**
**COM**
**RJ45 LAN 3**

# 2-6 Install Memory

This motherboard provides one 240-pin DUAL INLINE MEMORY MODULES (DIMM) socket for memory expansion available from minimum memory size of 256MB to maximum memory size of 1GB DDR2 RAM.
DDR2 clock supports: DDRII200, DDRII266

**Valid Memory Configurations**

| DIMM1 | System Accept or Not | Total Memory |
|-------|----------------------|--------------|
|       |                      | Min. ~ Max.  |
| DS/SS | Accept               | 256MB~1GB    |

**DS: Double Sided DIMM**          **SS: Single Sided DIMM**

> **NOTE!**
> **Make sure the total installed memory does not exceed 1GB;**
> **otherwise, the system may hang during startup.**

Install DDR RAM module oriented as Fig. 2.1.



DIMM1 (BANK0+BANK1)
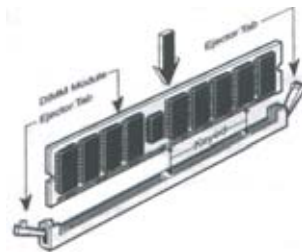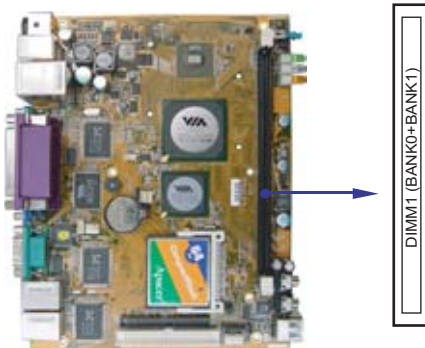
**Figure 2.1**

**NOTE!**

**When you install DIMM module fully into the DIMM socket, the eject tab should be locked into the DIMM module very firmly and fit into its indention on both sides.**

**WARNING!**

**2. Once you hear " Beep Beep Beep" sounds after turning on the power , please check if the DRAM is installed properly or not.**

## 2-7 List of Jumpers

JB1: CMOS DATA SET

JCF1: CF card mast and slave select

JCF2: CF card Voltage select

## 2-8 Jumper Setting Description

A jumper is ON as a closed circuit with a plastic cap covering two pins. A jumper is OFF as an open circuit without the plastic cap. Some jumpers have three pins, labeled 1, 2, and 3. You could connect either pin 1 and 2 or 2 and 3.

The below figure 2.2 shows the examples of different jumper settings in this  manual.



ON                OFF

**Figure 2.2**

1                  1

1-2               2-3
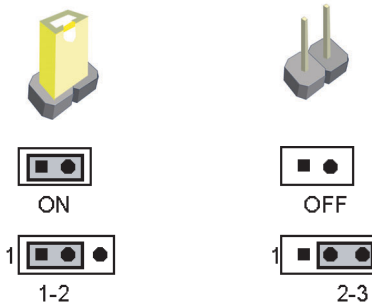
All jumpers already have its default setting with the plastic cap inserted as ON, or without the plastic cap as OFF. The default setting may be referred in this manual with a " * " symbol .

## 2-9 CMOS Data Set

A battery must be used to retain the motherboard configuration in CMOS RAM. Close pin 1and pin 2 of JB1 to store the CMOS data.

To clear the CMOS, follow the procedures below:
1. Turn off the system and unplug the AC power
2. Remove DC 12V power cable from DC 12V power connector
3. Locate JB1 and close pin 2-3 for a few seconds
4. Return to its normal setting by shorting pin 1-2
5. Connect DC 12V power cable back to DC 12V power connector

Note: Do not clear CMOS unless

*1. Troubleshooting*
*2. Forget password*
*3. You fail over-clocking system*

| JB1 | Description |
|------|-------------|
| *1-2 | *Normal Set |
| 2-3 | CMOS Data clear |

**JB1**

**3**
**2**
**1**

*Normal

**3**
**2**
**1**

Clear Setting
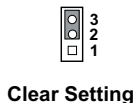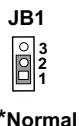
# 2-10 JCF2 CF Card Power Voltage select

If you use CF card and HDD together, we suggest you use the jumper setup for +5V.

| JCF2 | Description |
|-------|-------------|
| *1-2 | *For CF CARD power voltage select +5V |
| 2-3 | For CF CARD power voltage select +3.3V |

**JCF2**

**3**
**2**
**1**

**+5V***

**3**
**2**
**1**

**3.3V**

\* We use □ to refer to as pin1

## 2-11 JCF1 CF Card Master and Slave selection

If you use CF card and HDD together, please set CF as Master and HDD as Slave.

| JCF1 | Description |
|------|-------------|
| *1-2 | *CF Card use Master type |
| 2-3 | CF Card use Slave type |
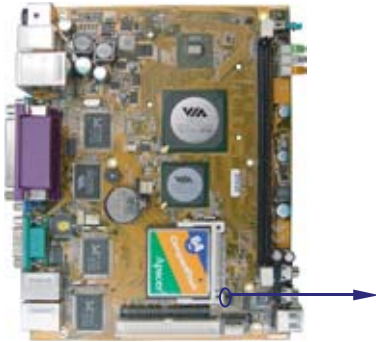
**JCF1**

**Master***      **Slave**

# Chapter-3

## Connection

This chapter provides all necessary information of the peripheral's connections, switches and indicators. Always power off the board before you install the peripherals.

## 3-1 List of Connectors

CN1: DC 12V-IN DIN Connector
CN4: DC 12V-IN Connector (Share to CN1)
CN5: PS2 Keyboard /Mouse Connector
JKM1: PS2 Keyboard /Mouse Connector (Share to CN5)
CN3: USB port 0/1 and LAN1 RJ45 Connector(or CN11 single RJ45)
CN7: COM1 port Connector
CN2: VGA DB15 Connector
CN46: VGA Header
CN10: Printer (LPT)port
CN6: COM2 port Connector
CN9: LAN2 RJ45 Connector
CN8: LAN3 RJ45 Connector
CN19: IDE1 40 pin (2.54mm)Connector
CN18: IDE2 44 pin (2.0mm)Connector
CN20:CF 50 pin socket
SATA1: S-ATA IDE 7pin Wafer
CN14: USB port 2 connector
CN16: USB port 3 connector
CN27: USB port 4 connector
JUSB1/JUSB2:USB 4/5 port connector

CN29: Line out connector
CN28 : Mic-in connector
CN47: Line out /Line in/ Mic-in Header
JF2: CPU FAN connector
JF1: System FAN connector
JI1: IR connector
CN21: DC +5/+12V output connector
CN26: I2C Bus connector
CN13: TV out connector
MPCI1:Mini PCI socket
JR1: Reset pin
SW1 : System power switch
JSW1 : System power switch pin header
PW LED : System power LED or pin header
JP1: System power LED pin header
HD LED : Hard Disk LED or pin header
LAN LED: LAN active LED

## 3-2 FAN Connector

CV700A provides one CPU fan connector and one system fan connector.

CPU Fan Connector- JF2
System FAN Connector-JF1
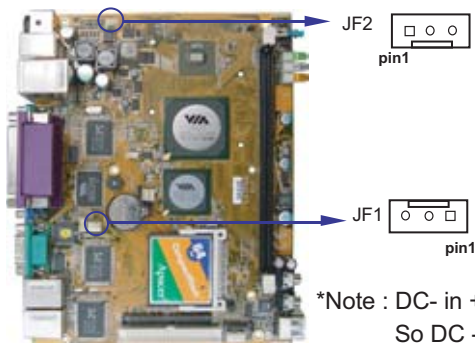
| PIN NO. | Description |
|---------|-------------|
| 1 | FAN Control ON/OFF |
| 2 | +12V |
| 3 | FAN speed Sensor |



JF2

**pin1**

JF1

**pin1**

*Note : DC- in +12V by switch to DC-out voltage +12V
         So DC -in need stable +12V input

## 3-3 IDE Connectors

There are two kinds of IDE connectors on this board, 40-pin and 44-pin. Each can support up to two IDE-inferface devices. One standard 40-pin header daisy-chain driver connector provides as IDE1 with following pin assignment.

40 pins (2.54mm)-CN19(IDE 1)
This connector supports the provided IDE hard disk ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to your hard disk(s). If you install two hard disks, you must configure the second drive as Slave mode by setting its jumpers accordingly. Please refer to the documentation of your hard disk for the jumper settings.

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | RESET# | 2 | GROUND |
| 3 | DATA7 | 4 | DATA8 |
| 5 | DATA6 | 6 | DATA9 |
| 7 | DATA5 | 8 | DATA10 |
| 9 | DATA4 | 10 | DATA11 |
| 11 | DATA3 | 12 | DATA12 |
| 13 | DATA2 | 14 | DATA13 |
| 15 | DATA1 | 16 | DATA14 |
| 17 | DATA0 | 18 | DATA15 |
| 19 | GROUND | 20 | +5V |
| 21 | DREQ | 22 | GROUND |
| 23 | IOW# | 24 | GROUND |
| 25 | IOR# | 26 | GROUND |
| 27 | IORDY | 28 | PULL DOWN |
| 29 | DACK# | 30 | GROUND |
| 31 | IRQ14 | 32 | NC |
| 33 | SA 1 | 34 | ATA 33/66/100 CABLE SELECT |
| 35 | SA 0 | 36 | SA 2 |
| 37 | HD CS0# | 38 | HD CS1# |
| 39 | HD LED | 40 | GROUND |

### Note!
PIN 20 connector +5V of IDE 1 could provide the power of DOM

**Note: Pin20 is +5V power can use new type DOM module.**

44 pins(2.0mm)-CN18 (IDE2)

This connector supports slim type 2.5" HDD. Follow the same procedure described for the primary IDE connector. You may also configure two hard disks as both Masters using one ribbon cable on the primary IDE connector and another ribbon cable on the secondary IDE connector. (See Appendix B)

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | RESET# | 2 | GROUND |
| 3 | DATA7 | 4 | DATA8 |
| 5 | DATA6 | 6 | DATA9 |
| 7 | DATA5 | 8 | DATA10 |
| 9 | DATA4 | 10 | DATA11 |
| 11 | DATA3 | 12 | DATA12 |
| 13 | DATA2 | 14 | DATA13 |
| 15 | DATA1 | 16 | DATA14 |
| 17 | DATA0 | 18 | DATA15 |
| 19 | GROUND | 20 | KEY |
| 21 | DREQ | 22 | GROUND |
| 23 | IOW# | 24 | GROUND |
| 25 | IOR# | 26 | GROUND |
| 27 | IORDY | 28 | PULL DOWN |
| 29 | DACK# | 30 | GROUND |
| 31 | IRQ15 | 32 | NC |
| 33 | SA 1 | 34 | ATA 33/66/100 CABLE SELECT |
| 35 | SA 0 | 36 | SA 2 |
| 37 | HD CS0# | 38 | HD CS1# |
| 39 | HD LED | 40 | GROUND |
| 41 | +5V | 42 | +5V |
| 43 | GROUND | 44 | NC |
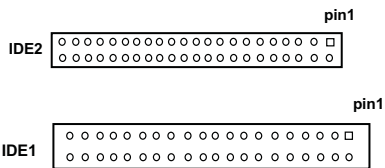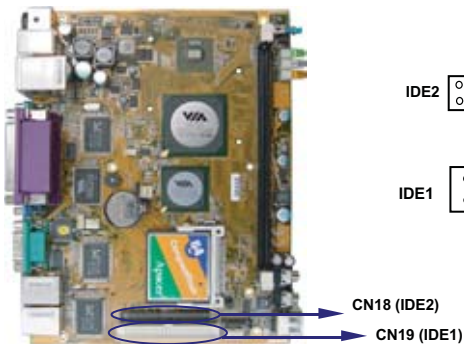
# 3-4 Compact - Flash Memory Socket

C700A configures CompactFlash Storage Card in IDE mode. It will use IDE channel when CompactFlash card is plugged in. This socket supports CF Card Type I/II socket spec.
CF Socket 50pin----CN20

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | GND | 26 | GND/-CD1 |
| 2 | DATA3 | 27 | DATA11 |
| 3 | DATA4 | 28 | DATA12 |
| 4 | DATA5 | 29 | DATA13 |
| 5 | DATA6 | 30 | DATA14 |
| 6 | DATA7 | 31 | DATA15 |
| 7 | -CS0 | 32 | -CS1 |
| 8 | NC(A10) | 33 | GND/-VS1 |
| 9 | -ATA_ SEL | 34 | -IOR |
| 10 | NC(A9) | 35 | -IOW |
| 11 | NC(A8) | 36 | VCC/-WE(PH) |
| 12 | NC(A7) | 37 | INTR |
| 13 | VCC* | 38 | VCC* |
| 14 | NC(A6) | 39 | -CSEL |
| 15 | NC(A5) | 40 | NC(-VS2) |
| 16 | NC(A4) | 41 | RESET |
| 17 | NC(A3) | 42 | IORDY |
| 18 | SDA2 | 43 | DREQ |
| 19 | SDA1 | 44 | -DACK |
| 20 | SDA0 | 45 | -DASP |
| 21 | DATA0 | 46 | -PDIAG |
| 22 | DATA1 | 47 | DATA8 |
| 23 | DATA2 | 48 | DATA9 |
| 24 | NC/-IOCS16 | 49 | DATA10 |
| 25 | GND/-CD2 | 50 | GND |
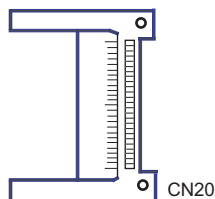
Note: Refer JCF1 /JCF2 Jumper set (CF socket share to IDE2)

# 3-5 Parallel Port Connector

Parallel Port connector is a D-type 25-pin female connector. The On-board Parallel Port can be disabled through the BIOS SETUP (see Chapter 4)

- CN10: Printer (LPT)Port ---CN10 D-SUB 25 PIN

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | STROBE# | 14 | AUTO FROM FEED# |
| 2 | DATA0 | 15 | ERROR# |
| 3 | DATA1 | 16 | INITIALIZE |
| 4 | DATA2 | 17 | PRINTER SELECT LN# |
| 5 | DATA3 | 18 | GROUND |
| 6 | DATA4 | 19 | GROUND |
| 7 | DATA5 | 20 | GROUND |
| 8 | DATA6 | 21 | GROUND |
| 9 | DATA7 | 22 | GROUND |
| 10 | ACKNOWLEDGE | 23 | GROUND |
| 11 | BUSY | 24 | GROUND |
| 12 | PARER EMPTY | 25 | GROUND |
| 13 | PRINTER SELECT | | |



**CN10**
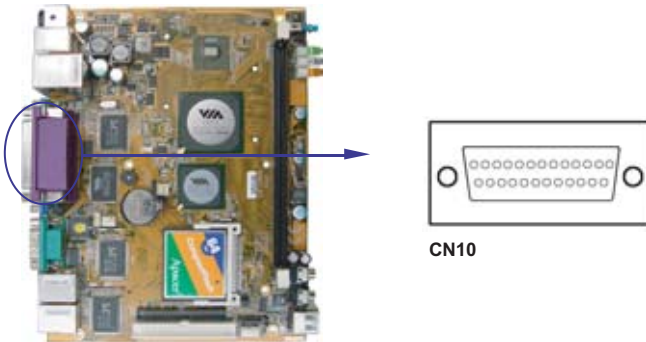
# 3-6 Serial Port Connector

The CV700A board offers two high speed NSI6C550 compatible UARTS with Read/ Receive 16 byte FIFO serial ports. The serial ports are two DB-9 external connectors. The On-board serial port can be disabled through BIOS SETUP (see Chapter 4).

● **CN7: COM1 Connector D-SUB 9-Pin**

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | DCD | 6 | DSR |
| 2 | RXD | 7 | RTS |
| 3 | TXD | 8 | CTS |
| 4 | DTR | 9 | RI |
| 5 | GND | | |

● **CN6: COM2 Connector D-SUB 9-pin**

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | DCD | 6 | DSR |
| 2 | RXD | 7 | RTS |
| 3 | TXD | 8 | CTS |
| 4 | DTR | 9 | RI |
| 5 | GND | | |



CN7: COM1          CN6: COM2
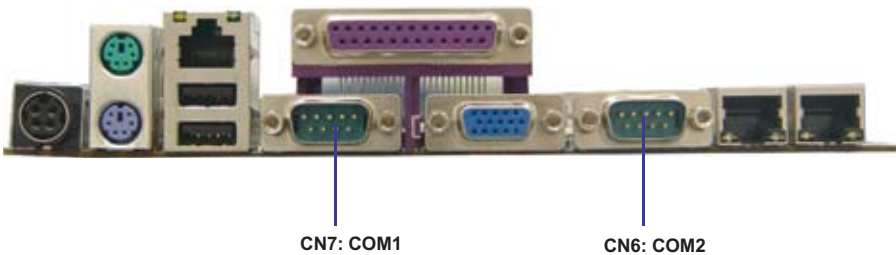
# 3-7 Keyboard and Mouse Connector

**CN5: PS2 Keyboard  down side (Din 6 pin jack)**

| PIN NO. | Description |
|---------|-------------|
| 1 | KB DATA |
| 2 | MS DATA |
| 3 | GND |
| 4 | +5V |
| 5 | KB CLOCK |
| 6 | MS CLOCK |

**CN5: PS2 Mouse  up side (Din 6 pin jack)**

| PIN NO. | Description |
|---------|-------------|
| 1 | MS DATA |
| 2 | NC |
| 3 | GND |
| 4 | +5V |
| 5 | MS CLOCK |
| 6 | NC |



**CN5
PS/2 Mouse**

**CN5
PS/2 Keyboard**

**JKM1: 6 PIN (1.25mm Wafer connector) Internal Keyboard / Mouse Connector
       (Share to CN5)**

| PIN NO. | Description |
|---------|-------------|
| 1 | +5 |
| 2 | KB DATA |
| 3 | KB CLOCK |
| 4 | GND |
| 5 | MS DATA |
| 6 | MS CLOCK |

# 3-8 USB Port/ Header

**CN3 (Down side) : USB 0/1port Type A Jack**

| PIN NO. | Description |
|---------|-------------|
| 1 | +5V |
| 2 | USB DATA 0/1- |
| 3 | USB DATA 0/1+ |
| 4 | GND |

**CN27: USB port 4 Type A jack**

| PIN NO. | Description |
|---------|-------------|
| 1 | +5V |
| 2 | USB DATA 6- |
| 3 | USB DATA 6+ |
| 4 | GND |

**CN14 / CN16 : USB port 2/3 pin
(1.25mm Wafer connector)**

| PIN NO. | Description |
|---------|-------------|
| 1 | +5V |
| 2 | USB DATA - 4/5 |
| 3 | USB DATA + 4/5 |
| 4 | GND |

**JUSB1/JUSB2 USB 4/5 port
5pin header (2.54mm)**

| PIN NO. | Description |
|---------|-------------|
| 1 | +5V |
| 2 | USB DATA 6/7- |
| 3 | USB DATA 6/7+ |
| 4 | KEY |
| 5 | GND |



CN3

CN14  CN16

pin1

CN27

pin1

JUSB2
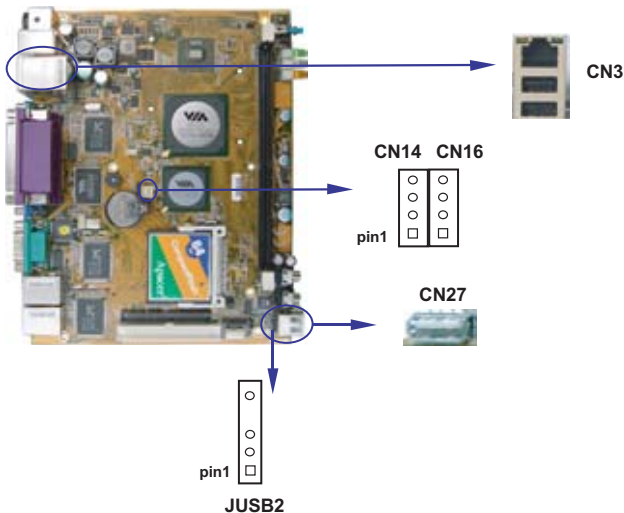
## 3-9 IR Connector

This built-in IR connector supports the optional wireless transmitting and receiving infrared module. It supports Infra-red Data Association (IrDA) and Amplitude Shift Keyed IR (ASKIR). You can configure the setting through the BIOS setup to use the IR function. (see Chapter 4)

- **JI1: IR connector ---5pin (1.25mm Wafer connector)**
  **IR : ASKIR / IRDA**

| PIN NO. | Description |
|---------|-------------|
| 1 | +5VSB |
| 2 | FIR |
| 3 | IRRX |
| 4 | GND |
| 5 | IRTX |



**JI1 IR**
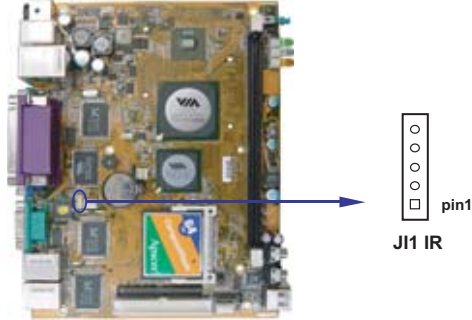
## 3-10 VGA Connector

- **CN2: VGA DB15 Connector Up side  (D SUB 15PIN)**

| PIN NO. | Description | PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|---------|-------------|
| 1 | RED | 6 | GND | 11 | NC |
| 2 | GREEN | 7 | GND | 12 | DDC DATA |
| 3 | BULE | 8 | GND | 13 | H-SYNC |
| 4 | NC | 9 | NC | 14 | V-SYNC |
| 5 | GND | 10 | GND | 15 | DDC CLOCK |



**CN2 VGA**
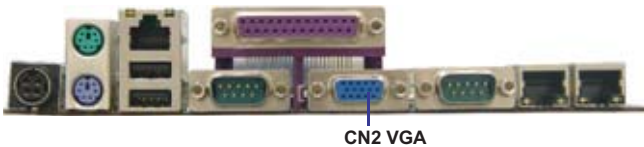
## 3-10.1 VGA Header

- **CN46 : VGA Header (2x5pin 2.0mm)**

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | BULE | 2 | RED |
| 3 | GREEN | 4 | GND |
| 5 | H-SYNC | 6 | V-SYNC |
| 7 | DDC DATA | 8 | DDC CLOCL |
| 9 | GND | 10 | KEY |

# 3-11 LAN Port

The Fast Ethernet controller provides 32-bit performance, PCI bus master capability, and full compliance with IEEE 802.3 10/100Based-T specification.

For 10/100Base-T operation, please connect the network connection by plugging one end of the cable into the RJ-45 jack of the CN9,CN8 Connector.

Besides 10/100 Base-T, CV700A can provide Giga LAN solution through CN9,CN8 once equipped with Intel 82541GI/PI/ER chipset.

- **CN3 (Up side) (or CN11 single RJ45-CV702A) :LAN1 Giga/100Mb Jack**
  **CN9: LAN2 RJ45 Connector**
  **CN8: LAN3 RJ45 Connector**

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | TD0-/TX+ | 5 | TD2-/NC |
| 2 | TD0+/TX- | 6 | TD2+/RX- |
| 3 | TD1-/RX+ | 7 | TD3-/NC |
| 4 | TD1+/NC | 8 | TD3+/NC |



CV700A

RJ45 CN8

RJ45 CN3

RJ45 CN9

CV702A

RJ45 CN11
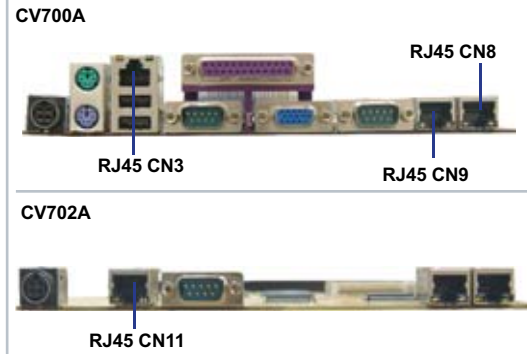
## LAN Led

RJ45 LAN1 Connector--- LED define Giga/100/10MB Conector

| Back side connector | RED LED | GREEN LED | YELLOW LED |
|---------------------|---------|-----------|------------|
| Indicate | GIGA LAN Link(light) | 100Mb LAN Link(light) | 10Mb LAN Link(light) |
| Fron side | LAN LED Header | | |
| Indicate | LAN10/100/1000BT Actived (light) | | |

RJ45 LAN1 Connector--- LED define 10/100MB Conector

| Back side connector | GREEN LED | GREEN LED |
|---------------------|-----------|-----------|
| Link | ORANGE LED | ORANGE LED |
| Indicate | 100Mb LAN Link(light) | 10Mb LAN Link(light) |
| Fron side | LAN LED Header | |
| Indicate | LAN10/100BT Actived (light) | |

# 3-12 Audio Port Connector

The CV700A has an on-board AC'97 3D sound interface. There are the connectors of LINE OUT, MIC-IN and CD-IN connectors.
The MIC-IN Jack and CD-IN header are for audio sound input. The LINE-OUT connector is a 4-pin Jack for audio sound output.

● **CN29 (Phone Jack) -----Line-OUT**
(3.5mm Phone jack or 5pin 2.54mm header)

| PIN NO. | Description |
|---------|-------------|
| 1 | GND |
| 2 | FRONT OUT-L |
| 3 | NC |
| 4 | NC |
| 5 | FRONT OUT-R |

● **CN28 (Phone Jack) -----MIC-IN**
(3.5mm Phone jack or 5pin 2.54mm header)

| PIN NO. | Description |
|---------|-------------|
| 1 | GND |
| 2 | MIC-PW |
| 3 | GND |
| 4 | NC |
| 5 | MIC-IN |

**Speak out CN29**



**MIC-IN  CN28**

● **CN47: Line-out / MIC-in Header (2x4pin 2.0mm Header)**

| PIN NO. | Description | PIN NO. | Description |
|---------|-------------|---------|-------------|
| 1 | Line-out-R | 2 | Line-out-L |
| 3 | GND | 4 | GND |
| 5 | Line-in-R | 6 | Line-in-L |
| 7 | Mic-in | 8 | Mic-in |



**CN47**
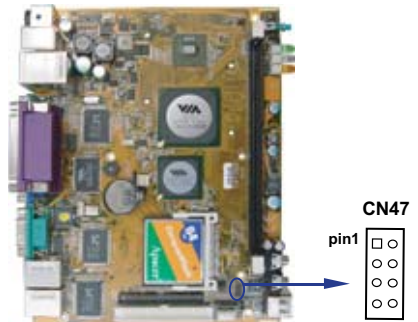
pin1

**Note: If phone jack plunge into CN29 of the signal will disabled CN24 pin 1/2**

# 3-13 DC 12V IN and DC out

● **CN1: DC 12V-IN External Connector (4pin mini den connector)**

| PIN NO. | Description |
|---------|-------------|
| 1,2 | +12V DC-IN |
| 3,4 | GND |



**CN1
DC 12V IN**

● **CN4: DC 12V-IN Internal Connector (4pin connector)**
   **( For option connector)**

| PIN NO. | Description |
|---------|-------------|
| 3,4 | +12V DC-IN |
| 1,2 | GND |

# 3-14 DC +5/+12V output connector

● **CN21 : DC +5/+12V output connector(2.5mm Wafer)**

| PIN NO. | Description |
|---------|-------------|
| 1 | +5V |
| 2 | GND |
| 3 | GND |
| 4 | +12V* |

\* Note: DC in +12V by switch to DC-out voltage +12V

   So DC in need stable +12V input



□○○○ CN21

# 3-15 Serial ATA

● **SATA1: S-ATA IDE 7pin Wafer**

| PIN NO. | Description |
|---------|-------------|
| 1 | GND |
| 2 | DATA TX+ |
| 3 | DATA TX- |
| 4 | GND |
| 5 | DATA RX- |
| 6 | DATA RX+ |
| 7 | GND |



SATA1
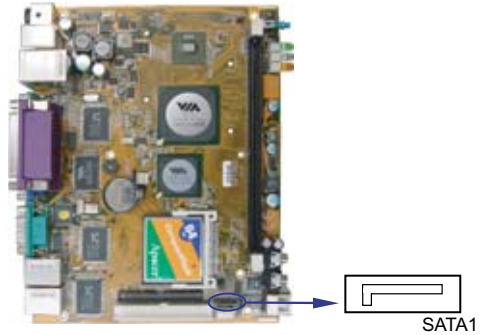
# 3-16 I²C Bus Connector

● **CN26: I²C Bus connector 4pin (1.25mm Wafer connector)**

| PIN NO. | Description |
|---------|-------------|
| 1 | +3.3V |
| 2 | GND |
| 3 | I2C CLK |
| 4 | I2C DATA |



**pin1**

**CN26**
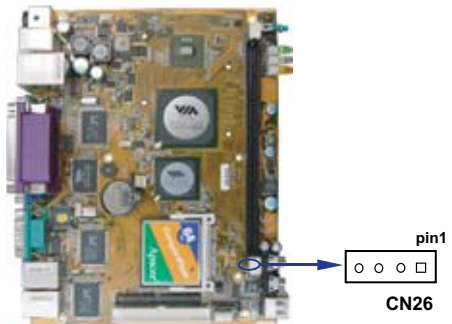
## 3-17 TV-OUT Connector

**CN13 : TV-OUT S-VIDEO**
**(4pin 1.25mm Wafer)**

| PIN NO. | Description |
|---------|-------------|
| 1 | LUMA-out |
| 2 | CHROMA-out |
| 3 | CVBS |
| 4 | GND |
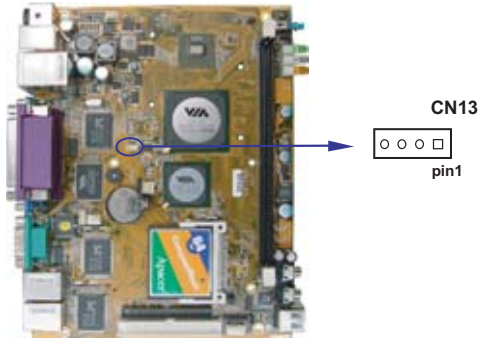


## 3-18 Front-Panel

. **JR1: System Reset key( 2.0mm pin header)**

. **Power switch: PW-ON--- SW1**
**JSW1: Power on switch**
Based on case design , there may be a power switch or a 2-pin header connected to the case-mounted power switch. It is used to power ON/OFF the system.

. **Power LED: PW-LED / JP1**
The Power LED is lit while the system power is on.

. **IDE Activity LED: HDD-LED**
HDD-LED shows the activity of the hard disk.

. **LAN LED Activity LED**
LAN1/ LAN2 LED shows the activity of network
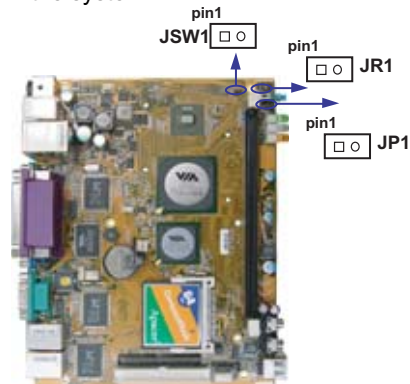
# Chapter 4

## Introduction of BIOS

The BIOS is a program located in the Flash Memory on the motherboard.
This program is a bridge between motherboard and operating system.
When you start the computer, the BIOS program gains control. The BIOS first
operates an auto-diagnostic test called POST (Power on Self Test) for all the
necessary hardware, it detects the entire hardware devices and configures the
parameters of the hardware synchronization. After these tasks are completed,
BIOS will give control of the computer back to operating system (OS).  Since the BIOS
is the only channel for hardware and software to communicate with, it is the key factor
of system stability and of ensuring your system performance at best.

In the BIOS Setup main menu of Figure 4-1, you can see several options. We will
explain these options in the following pages. First, let us see the function keys
you may use here:

● Press <Esc> to quit the BIOS Setup.
● Press ↑↓←→ (up, down, left, right) to choose the option you
  want to confirm or modify.
● Press <F10> to save these parameters and to exit the BIOS Setup menu after
  you complet the setup of BIOS parameters.
● Press Page Up/Page Down or +/- keys to modify the BIOS
  parameters for the active option.

## 4-1  Enter Setup

Power on the computer and press <Del> immediately to enter Setup.

If the message disappears before your respond but you still wish to enter Setup,
restart the system by turning it OFF then ON button on the system case. You may
also restart the system by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys.
If you do not press the keys at the proper time and the system does not boot, an
error message will display and  you will be asked to

**Press <F1> to continue, <Ctrl-Alt-Esc> or <Del> to enter Setup**

## 4-2  Getting Help

**Main Menu**

The on-line description of the highlighted setup function is displayed at the
bottom of the screen.

**Status Page Setup Menu/ Option Page Setup Menu**

Press F1 to pop up a small help window that describes the appropriate keys to use
and the possible selections for the highlighted item.
To exit the Help Window, press <Esc>.

## 4-3  The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu will appear on the
screen. The Main Menu has fourteen setup functions and two exit choices.
Use arrow keys to select among these items. Press <Enter> to accept or enter
the sub-menu.

```
                Phoenix-AwardBIOS CMOS Setup Utility
┌───────────────────────────────────────────────────────────────┐
│  Standard CMOS Features       │  Frequency/Voltage Control      │
│                               │                                 │
│  Advanced BIOS Features       │  Load Fail-Safe Defaults        │
│                               │                                 │
│  Advanced Chipset Features    │  Load Optimized Defaults        │
│                               │                                 │
│  Integrated Peripherals       │  Set Supervisor Password        │
│                               │                                 │
│  Power Management Setup        │  Set User Password             │
│                               │                                 │
│  PnP/PCI Configurations        │  Save & Exit Setup            │
│                               │                                 │
│  PC Health Status             │  Exit Without Saving            │
├───────────────────────────────────────────────────────────────┤
│  Esc : Quit   F9 : Menu in BIOS           : Select Item         │
│  F10 : Save & Exit Setup                                        │
├───────────────────────────────────────────────────────────────┤
│               Time, Date, Hard Disk Type…                       │
└───────────────────────────────────────────────────────────────┘
```

### Standard CMOS Features

This Menu is for basic system configurations.

### Advanced BIOS Features

This menu is to set the Advanced Features available in your system.

### Advanced Chipset Features

This menu is to change the values in the chipset registers and optimize your system performance.

### Integrated Peripherals

This menu is to specify your settings for integrated peripherals.

### Power Management Setup

This menu is 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.

### Frequency/Voltage Control

This menu is to specify your settings for Miscellaneous Control.

### Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal system operation performance.  It is provided for the skillful users who want to push the motherboard to get better performance. The Optimized setting does not go through all the reliability and compatibility tests, it is verified only with limited configurations and loading (for example, a system that is equipped with only one VGA card and one DIMM.  Do not use Optimized setting unless you fully understand the items in chipset setup menu.

## Load Standard Defaults

Use this menu to load the BIOS default values for the optimum system performance.
Standard Defaults settings are relatively more reliable than Optimized Defaults.
All the product verifications, compatibility test reports and manufacture quality
controls are based on "Standard Defaults".  We suggest you to use this setting
for normal operation.  "Standard Defaults" is not the slowest setting for this
motherboard.  If you need to verify an unstable problem, you may manually set the
parameter in "Advanced Chipset Features" to get slower and safer setting.

### Set Supervisor/User Password

This menu is to set User and Supervisor Passwords.

### Save & Exit Setup

Save CMOS values modified to CMOS and exit setup.

### Exit Without Saving

Abandon all the CMOS values modified and exit setup.

# 4-4  Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories.
Each category includes no, one or more than one setup items.  Use the arrow
keys to highlight the item and then use the <PgUp> or <PgDn> keys to select
the value you want to modify with this item.

```
              Phoenix – AwardBIOS CMOS Setup Utility
                        Standard CMOS Features
┌─────────────────────────────────────────┬──────────────────────────────┐
│ Date (mm:dd:yy)        May  5 2006       │        Item Help             │
│ Time (hh:mm:ss)        10 : 59 : 36      │                              │
│                                          ├──────────────────────────────┤
│▸IDE Channel 0 Master   [ None ]          │                              │
│▸IDE Channel 0 Slave    [ None ]          │  Menu Level >                │
│▸IDE Channel 1 Master   [ None ]          │                              │
│▸IDE Channel 1 Slave    [ None ]          │  Change the day, moth,       │
│▸IDE Channel 2 Master   [ None ]          │  year and century            │
│▸IDE Channel 3 Master   [ None ]          │                              │
│                                          │                              │
│ Video                  [EGA/VGA]         │                              │
│ Halt On                [No Errors]       │                              │
│                                          │                              │
│ Base Memory                  640K        │                              │
│ Extended Memory            65472K        │                              │
│ Total Memory                1024K        │                              │
├──────────────────────────────────────────┴──────────────────────────────┤
│      :Move  Enter:Select +/–/PU/PD:Value F10:Save  ESC:Exit  F1:General Help │
│  F5:Previous Values      F6:Fail-Safe Defaults     F7:Optimized Defaults     │
└──────────────────────────────────────────────────────────────────────────┘
```

## 4-5 Advanced BIOS Features

```
              Phoenix-AwardBIOS CMOS Setup Utility
                    Advanced BIOS Features
```

```
  Hard Disk Boot Priority      [Press Enter]           Item Help
  Virus Warning                [Disabled]
  CPU L1 & L2 Cache            [Enabled]
  CPU L2 Cache ECC Checking    [Enabled]
  Quick Power On Self Test     [Enabled]
  First Boot Device            [USB-FDD]              Menu Level >
  Second Boot Device           [HDD-0]
  Third Boot Device            [CDROM]
  Boot Other Device            [Enabled]
  Boot Up NumLock Status       [On]                   Allows you to choose
  Typematic Rate Setting       [Disabled]             the VIRUS warning
X Typematic Rate (Chars/Sec)   [6]                    feature for IDE Hard
X Typematic Delay (Msec)       [250]                  Disk boot sector
  Security Option              [Setup]                protection. If this
  OS Select For DRAM > 64MB    [Non - OS2]            function is enabled
                                                      and someone attempt to
  Video BIOS Shadow            [Enabled]              write data into this
                                                      area, BIOS will show a
  Full Screen LOGO Show        [Enabled]              warning message on
  Small Logo (EPA) Show        [Disabled]             screen and alarm beep


    :Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help

  F5:Previous Values       F6:Fail-Safe Defaults      F7:Optimized Defaults
```

**Virus Warning**

The VIRUS Warning feature can help you protect IDE Hard Disk boot sector.
If this function is enabled, BIOS will show a warning message on screen and alarm
beep when somenoe attemps to write data into this area without permission.

**Disabled** (default) No warning message appears when anything attempts to access the boot sector or hard disk partition table.

**Enabled** Activate automatically when the system boots up. The system will show the warning message if anything attempts to access the boot sector of hard disk partition table.

## 4-6  Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the
chipset registers.  These registers control most of the system options in the computer.

```
                     Phoenix- AwardBIOS CMOS Setup Utility
                          Advanced Chipset Features
┌─────────────────────────────────────────────────┬─────────────────────┐
│ ▶ DRAM  Clock/Drive Control     [Press Enter]     │                     │
│ ▶ AGP & P2P Bridge Control       [Press Enter]    │      Item Help      │
│  Memory Hole                    [Disabled]        │                     │
│                                                   ├─────────────────────┤
│  System BIOS Cacheable          [Enabled]         │  Menu Level >>      │
│  Video RAM Cacheable            [Disabled]        │                     │
│                                                   │                     │
│                                                   │                     │
│                                                   │                     │
│                                                   │                     │
├─────────────────────────────────────────────────┴─────────────────────┤
│    :Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│   F5:Previous Values      F6:Fail-Safe Defaults     F7:Optimized Defaults   │
└────────────────────────────────────────────────────────────────────────┘
```

## 4-6-1  DRAM Clock/Drive Control

```
                     Phoenix- AwardBIOS CMOS Setup Utility
                          DRAM Clock/Drive Control
┌─────────────────────────────────────────────────┬─────────────────────┐
│  Current FSB Frequency          100 MHz           │                     │
│  Current DRAM Frequency         266 MHz           │                     │
│   DRAM Clock                   [By SPD]           │      Item Help      │
│   DRAM Timing                  [Auto By SPD]      │                     │
│ X SDRAM CAS Latency [DDR / DDR 2.5 / 4            │                     │
│ X Bank Interleave              Disabled           ├─────────────────────┤
│ x Precharge to Active <Trp>     4T                │  Menu Level >>      │
│ x Active to Precharge <Tras>    07T               │                     │
│ x Active to CMD <Trcd>          4T                │                     │
│ x REF toACT / REF (Trfc)        21T               │                     │
│ X ACT(0) to ACT(1) (TRRD)       3T                │                     │
│   Read to Precharge (Trtp)     [2T]               │                     │
│   Write to Read CMD (Twtr)     [1T/2T]            │                     │
│   Write Recovery Time (Twr)    [4T]               │                     │
│   DRAM Command Rate            [2T Command]       │                     │
│   RDSAIT mode                  [Auto]             │                     │
│ x RDSAIT selection              03                │                     │
├─────────────────────────────────────────────────┴─────────────────────┤
│      :Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│   F5:Previous Values      F6:Fail-Safe Defaults     F7:Optimized Defaults   │
└────────────────────────────────────────────────────────────────────────┘
```

**The menu is to include settings for the chipset dependents features.These features are
related to system performance.  Make sure you fully understand the items contained in this
menu before you change anything. You may change the parameter settings to improve
system performance. However, it may make your system unstable if the setting is not
correct for your system configuration.**

## 4-6-2 AGP & P2P Bridge Control

```
DRAM  Clock/Drive Control      [64M]
AGP & P2P Bridge Control       [Enabled]                    Item Help

                                                      Menu Level >>




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

## 4-7  Integrated Peripherals

```
 ▶ VIA OnChip IDE Device        [Press Enter]
 ▶ VIA OnChip PCI Device        [Press Enter]              Item Help
 ▶ SuperIO Device               [Press Enter]


                                                      Menu Level >>







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

## 4-7-1 VIA OnChip IDE Device

```
                    Phoenix-AwardBIOS CMOS Setup Utility

                          VIA OnChip IDE Device

┌─────────────────────────────────────────────────┬──────────────────────┐
│  OnChip SATA              [Enabled]              │                      │
│  SATA Mode                [IDE]                  │      Item Help       │
│  IDE DMA transfer         [Enabled]              │                      │
│  OnChip IDE Channe10      [Enabled]              │                      │
│  OnChip IDE Channe11      [Enabled]              │    Menu Level >>     │
│  IDE Prefetch Mode        [Enabled]              │                      │
│  Primary Master   PIO     [Auto]                 │                      │
│  Primary Slave    PIO     [Auto]                 │                      │
│  Secondary Master PIO     [Auto]                 │                      │
│  Secondary Slave  PIO     [Auto]                 │                      │
│  Primary Master   UDMA    [Auto]                 │                      │
│  Primary Slave    UDMA    [Auto]                 │                      │
│  Secondary Master UDMA    [Auto]                 │                      │
│  Secondary Slave  UDMA    [Auto]                 │                      │
│  IDE HDD Block Mode       [Enabled]              │                      │
├─────────────────────────────────────────────────┴──────────────────────┤
│    :Move  Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help │
│   F5:Previous Values     F6: Fail-Safe Defaults    F7:Optimized Defaults │
└─────────────────────────────────────────────────────────────────────────┘
```

## 4-7-2 VIA OnChip PCI Device

```
                    Phoenix - AwardBIOS CMOS Setup Utility

┌─────────────────────────────────────────────────┬──────────────────────┐
│  VIA-3058 AC97 Audio        [Auto]              │                      │
│  OnChip USB Controller      [All Enabled]       │      Item Help       │
│  OnChip EHCI Controller     [Enabled]           │                      │
│  USB Emulation              [ON]                │                      │
│ x USB Keyboard Support      Enabled             │    Menu Level >>     │
│ x USB Mouse Support         Enabled             │                      │
│                                                 │                      │
│                                                 │                      │
│                                                 │                      │
│                                                 │                      │
│                                                 │                      │
├─────────────────────────────────────────────────┴──────────────────────┤
│    :Move  Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help │
│   F5:Previous Values     F6: Fail-Safe Defaults    F7:Optimized Defaults │
└─────────────────────────────────────────────────────────────────────────┘
```

**VIA-3058 AC97 AUDIO**

This item allows you to decide to enable/disable to support AC97 Audio.

## 4-7-3  Super IO Device

```
                     Phoenix-AwardBIOS CMOS Setup Utility
                              Super IO Device
```

| | | |
|---|---|---|
| Onboard Serial Port 1 | [3F8/IRQ4] | Item Help |
| Onboard Serial Port 2 | [2F8/IRQ3] | |
| Onboard Parallel Port | [378/IRQ7] | |
| X EPP Mode Select | EPP1.7 | Menu Level >> |
| X ECP Mode Use DMA | 3 | |

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

## 4-8  Power Management Setup

The Power Management Setup allows you to configure your system to most
effectively energy saving while operating in a manner consistent with your
own style of computer use.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                        Power Management Setup
```

| | | |
|---|---|---|
| ACPI function | [Enabled] | Item Help |
| ACPI Suspend Type | S1(POS) | |
| Power Management Option | [User Define] | Menu Level ▶ |
| HDD Power Down | [Disable] | |
| Suspend Mode | [Disable] | |
| Video Off Option | [Suspend -> Off] | |
| Video Off Method | [V/H SYNC+Blank] | |
| MODEM Use IRQ | [NA] | |
| Soft Off by PWRBTN | [Instant Off] | |
| Ac Loss Auto Restart | [Former-Sts] | |
| ▶ IRQ/Event Activity Detect. | [Press Enter] | |

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

**IRQ / Event Activity Detect**
Please refer to section4-8-1

## 4-8-1 IRQ / Event Activity Detect

```
            Phoenix - AwardBIOS CMOS Setup Utility
                  IRQ/Event Activity Detect

   VGA                          [OFF]                    Item Help
   LPT & COM                    [LPT/COM]
   HDD & FDD                    [ON]             Menu Level    ▶▶
   PCI Master                   [OFF]
   PowerOn by PCI Card          [Disabled]
   Modem Ring Resume            [Disabled]
   RTC Alarm Resume             [Disabled]
 X Date (of Month)              [ 0]
 X Resume Time (hh:mm:ss)        0 :  0 :  0
 ▶ IRQs Activity Monitoring     [Press Enter]




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

**IRQs Activity Monitoring**
Please refer to section4-8-1.1

## 4-8-1.1 IRQs Activity Monitoring

```
            Phoenix - AwardBIOS CMOS Setup Utility
                   IRQs Activity Monitoring

   Primary INTR              [ON]                        Item Help
   IRQ3  (COM 2)             [Enabled]
   IRQ4  (COM 1)             [Enabled]          Menu Level    ▶▶▶
   IRQ5  (LPT 2)             [Enabled]
   IRQ6  (Floppy Disk)       [Disabled]
   IRQ7  (LPT 1)             [Enabled]
   IRQ8  (RTC Alarm)         [Disabled]
   IRQ9  (IRQ2 Redir)        [Disabled]
   IRQ10 (Reserved)          [Disabled]
   IRQ11 (Reserved)          [Disabled]
   IRQ12 (PS/2 Mouse)        [Enabled]
   IRQ13 (Coprocessor)       [Enabled]
   IRQ14 (Hard Disk)         [Enabled]
   IRQ15 (Reserved)          [Disabled]




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

# 4-9  PnP / PCI Configuration Setup

This section describes how to configure the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at the speed the CPU itself keeps when CPU communicates with its own special components. This section covers some very technical items and we strongly recommended that only experienced users should make any change to the default settings.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                      PnP/PCI Configurations

   PNP OS Installed          [No]                    Item Help
   Reset Configuration Data  [Disabled]
                                              Menu Level   ▶
   Resources Controlled By   [Auto(ESCD)]
 × IRQ Resources             [Press Enter]    Select Yes if you are
                                              using a Plug and Play
   PCI/UGA Palette Snoop     [Disabled]       capable operating
   Assign IRQ For UGA        [Enabled]        system Select No if
   Assign IRQ For USB        [Enabled]        you need the BIOS to
                                              configure non-boot
                                              devices




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

**Resource Controlled By**
The Award Plug and Play BIOS can 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 95/98. If you set this field to "manual", choose a specific resource by going into each  sub menu that follows this field (a sub menu is preceded by a ">").
The settings are Auto (ESCD) or Manual.

**IRQ Resources**
When resources are controlled manually, each system interrupt is assigned a type, depending on the type of device using the interrupt.

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

## 4-10  PC Health Status

This section shows the status of your CPU, Fan, and overall system.
This is only available when there is Hardware Monitor function onboard.

```
            Phoenix - AwardBIOS CMOS Setup Utility
                      PC Health Status
┌─────────────────────────────────────────┬─────────────────────┐
│ Current CPU Temp          39°C/ 102°F     │     Item Help       │
│ Current System Temp       46°C/ 114°F     │                     │
│ Current Fan 1 Speed         0 RPM         │ Menu Level   ►      │
│ Current Fan 2 Speed         0 RPM         │                     │
│       +12V               12.196 V         │                     │
│        +5V                5.005 V         │                     │
│        3.3V               3.277 V         │                     │
│    CPU Vcore              0.981 V         │                     │
│ Internal Vcc              3.201 V         │                     │
│                                           │                     │
│                                           │                     │
│                                           │                     │
│                                           │                     │
│                                           │                     │
│                                           │                     │
└─────────────────────────────────────────┴─────────────────────┘
↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
   F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults
```

**Show PC Health in Post**
During Enabled, it displays information list below.  The choice is either
Enabled or Disabled
**Current CPU Temperature/Current System Temp/Current FAN1,FAN2 Speed/
Vcore/3.3V/+5V/+12V**
This will show the CPU/FAN/System voltage chart and FAN Speed

## 4-11  Frequency/Voltage Control

This section is to set CPU Frequency Control.

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                          Frequency/Voltage Control
 ┌─────────────────────────────────────────────┬─────────────────────────┐
 │                                              │         Item Help       │
 │  Auto Detect PCI Clk          [Disabled]     │                         │
 │  Spread Spectrum              [Disabled]     ├─────────────────────────┤
 │                                              │   Menu Level >          │
 │                                              │                         │
 │                                              │                         │
 │                                              │                         │
 │                                              │                         │
 ├──────────────────────────────────────────────┴─────────────────────────┤
 │     :Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
 │    F5:Previous Values      F6:Fail-Safe Defaults     F7:Optimized Defaults │
 └──────────────────────────────────────────────────────────────────────────┘
```

**Auto Detect DIMM/PCI Clock**

This item allows you to enable or disable Auto Detect DIMM/PCI Clock.

The settings are Enabled or Disabled.

**Spread Spectrum**

This item allows you to set the CPU Host/PCI clock Spread Spectrum.

The choice are Disabled or Enabled.

## 4-12  Load Fail-Safe/Optimized Defaults

**Load Standard Defaults**

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

```
 ┌────────────────────────────────────────┐
 │    Load Standard Defaults (Y/N)? N      │
 └────────────────────────────────────────┘
```

Press <Y> to load the BIOS default values for the most stable system operation and minimal performance.

**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     │
 └────────────────────────────────────────┘
```

Press <Y> to load the default values that are factory settings for optimal system operation performance.

## 4-13  Set Supervisor/ User Password

You can set supervisor password, user password, or both.  The differences are:

**Supervisor password:**  You can enter the setup menus and change the options.
**User password:**  You can enter the setup menus but do not have the right to change the options. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

**ENTER PASSWORD:**

Type the password, up to eight characters in length, and press <Enter>. The password typed will clear any previous password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection without entering password.
To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm if you want to disable the password. Once the password is disabled, the system will boot and you can enter Setup menus freely.

**PASSWORD DISABLED.**

When a password has been enabled, you have to enter it every time before you enter the Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also have the BIOS to request a password at every time when your system is rebooted.  This would prevent the unauthorized user.

You can determine if the password is required within the BIOS Features Setup Menu and its Security option.  If the Security option is set to "System", the password will be required both at boot and at entry to Setup.  If set to "Setup", the password is required only at the entry to Setup.

# Chapter 5

## DRIVER INSTALLATION

There is a SYSTEM INSTALL CD disk in the package. This CD has all the drivers you need and some free application programs and utility programs. In addition, this CD also includes an auto-detect software which can tell you which hardware is installed and which driver is needed so that your system can function properly.

We call this auto detect software SYSTEM INSTALL.

### SYSTEM INSTALL Supports WINDOWS

### 98/98SE/ME/2000/XP

Insert the CD into your CD-ROM drive and the SYSTEM INSTALL Menu should appear as below. If the menu does not appear, double-click MY COMPUTER and double-click CD-ROM drive or click START, click RUN, and type X:\AUTORUN.EXE (assuming X is your CD-ROM drive).



**From MAGIC INSTALL MENU you may make 3 selections:**

1 . Auto detect main board and OS Into auto install driver Menu

2 . Explore CD to explore the contents of the CD

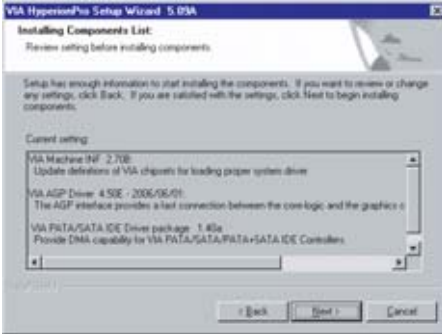3 . EXIT to exit from SYSTEM INSTALL menu

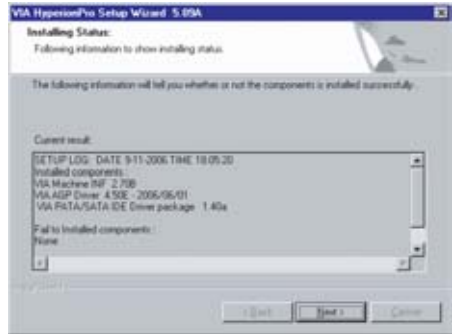## Auto install driver Menu
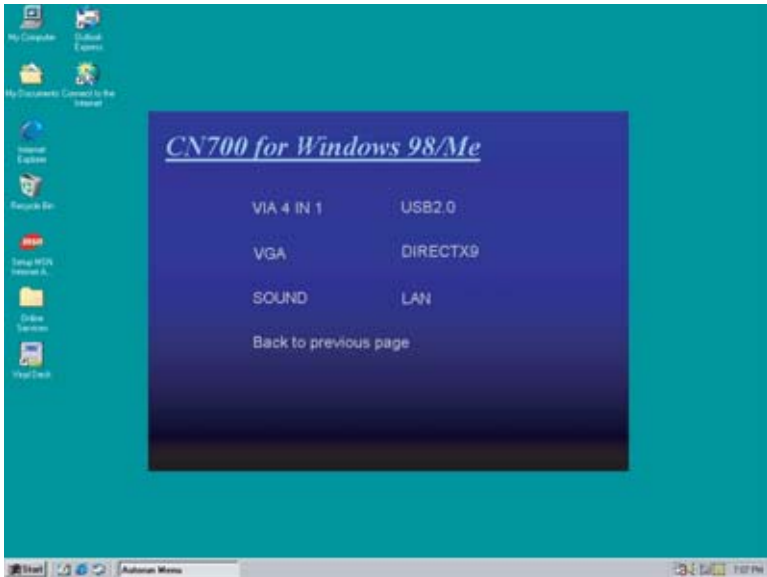


1. VIA 4 IN 1      install VIA IDE/AGP/IRQ ROUTING/INF driver
2. VGA             install on-board VGA driver
3. SOUND           install AC97 Audio Codec Installing driver
4. USB2.0          install VIA USB2.0 hardware Installing driver
5. LAN             to LAN install driver readme file
6. DIRECTX9        To install DirectX9 driver readme file
7.OTHERS           To PenMount 6000 install driver readme file

Note: PenMount 6000 DRIVER IS TO BE INSTALLED UNDER WIN 2000/XP ONLY.
Each selection is illustrated as below:

## 5-1 VIA 4 IN 1    Install VIA IDE/AGP/ INF  Driver

**IDE :** VIA ATAPI VENDOR SUPPORT DRIVER IS USED TO FIX COMPATIBILITY ISSUE FOR IDE DEVICES.
**AGP:** VIA AGP DRIVER IS TO BE INSTALLED. IF YOU ARE USING AN AGP VGA CARD, VIAGART.VXD WILL PROVIDE SERVICE ROUTINES TO YOUR VGA DRIVER AND INTERFACE DIREC**TL**Y TO HARDWARE, PROVIDING FAST GRAPHIC ACCESS.
**INF :** VIA REGISTRY DRIVER IS TO BE INSTALLED UNDER WINDOWS. THE DRIVER WILL ENABLE VIA POWER MANAGERMENT  CONTROLLER.



**1.Click VIA 4 IN 1 when System Install MENU appears.**



**2.Click NEXT when VIA Service Pack Wizard appears.**



**3.License Agreement. Click NEXT.**



**4. Choose all the drivers. Click NEXT.**

**Note: VIA AGP Driver IS TO BE INSTALLED UNDER WIN98 ONLY.**

**5.Installing Components List. Click NEXT.**

**6. This is to announce the Copy Right. Click NEXT.**



**7.Click Finish to restart computer.**

**NOTE: SYSTEM INSTALL will auto detect file path**
**X:\driver\VIA\CN700\4IN1\setup.exe**
**This driver supports WINDOWS 95\98\98SE\NT4.0\2000\XP**

## 5-2 VGA INSTALL CN700 VGA Driver



**1. Click VGA when System Install MENU appears.**
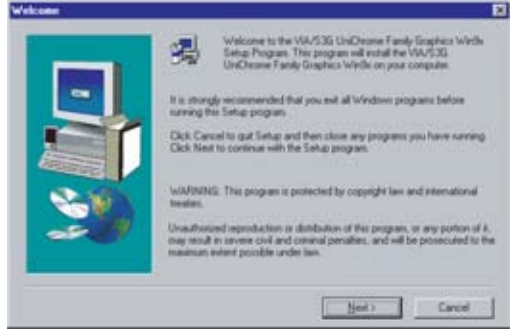


**2. Click NEXT when VIA/S3 CN700 Driver Setup appears.**



**3. This VIA/S3 CN700 Driver install will begin copying the driver files. Click NEXT.**

**Note: When you install driver , the "Hardware Installation" dialog in Windows XP will appear , click "countine Auyway".**



**4. Click FINISH to Restart Computer.**

**NOTE: The path of the file**
**        For WINDOWS 98/98SE/ME**
**X:\driver\VIA\CN700\VGA\WIN98me\SETUP.E**
**For WINDOWS 2000/XP**
**X:\driver\VIA\CN700\VGA\WIN2KXP\SETUP.E**

## 5-3  SOUND   Install VIA Audio Codec Driver for VIA



**1.Click SOUND when System Install MENU appears.**



**2. Click NEXT install VIA AC97 Audio Driver**



**3. Click NEXT install VIA AC97 Audio Driver**
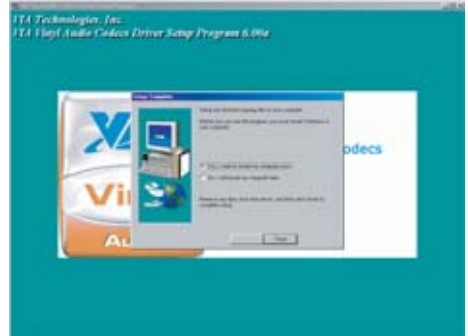


**4. Click FINISH to Restart Computer.**

**NOTE: The path of the file
          For WIN98/ME/2K\XP
 X:\ driver\via\viaudio\setup.exe**
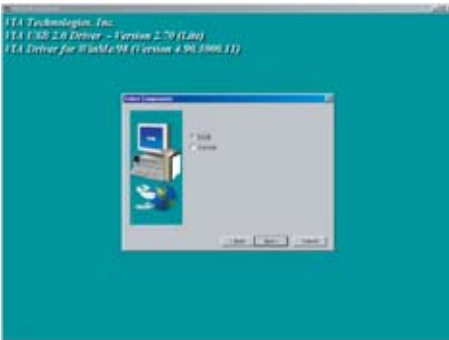
## 5-4 USB2.0 install VIA USB2.0 Installing driver


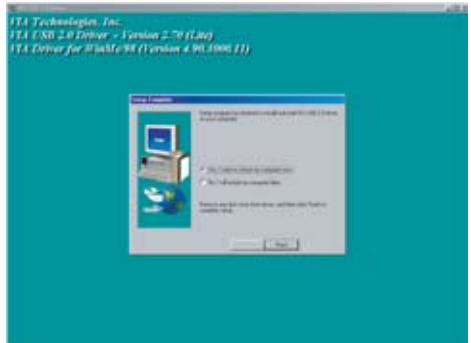
**1.Click USB2.0 when System Install MENU appears.**



**2. Click NEXT install USB2.0 Driver**

**NOTE: When you install driver for USB2.0 under Windows 2000.Please install SP4 first. When you install driver for USB2.0 under Windows XP.Please install SP1 first.**



**3. Click NEXT install VIA USB2.0 Driver**



**4. Click FINISH to Restart Computer.**

**NOTE: The path of the file**
**            For WIN98/ME/2K\XP**
**x:\ driver\via\CN700\USB20\setup.exe**

## 5-5   HOW TO DISABLE ON-BOARD SOUND

Enter BIOS SETUP. Choose INTEGRATE PERIPHERALS. Choose On-Chip Device FUNCTION. Choose " AC97 Audio Disable " on-board sound function by pressing PAGE DOWN KEY to Disable.


## 5-6   HOW TO UPDATE BIOS

In DOS Mode
STEP 1.  Prepare a boot disc. (you may make one by clicking START, clicking RUN, typing SYS A:   , and clicking  OK)
STEP 2.  Copy utility program to your boot disc.  You may copy it from DRIVER CD X:\Diver\bios\AWDFLASH.EXE or download it from our web site.
STEP 3.  Copy the latest BIOS for CV700A from our web site to your boot disc.
STEP 4.  Insert your boot disc into A:
Start the computer and type "Awdflash A:\CV700Axxx.BIN/SN/PY/CC/R"
CV700Axxx.BIN is the file name of the latest BIOS. It may be CV700AA1.
BIN or CV700AA2.BIN
SN   means   don't save the current BIOS data
PY   means   renew the current BIOS data
CC   means   clear the current CMOS data
R     means   restart computer
STEP 5.  Press ENTER and the BIOS will be updated,
computer will restart automatically.

# Appendix A: Power Consumption Test

**Condition**

| Item | Spec |
|------|------|
| CPU | V4 - C7 1GHz |
| DDR RAM | DDR2 533/1GB |
| Operating System | Windows XPP/SP2 |
| Test Program | 3D Mark 2001SE |
| HDD 3.5" | Standard HDD |
| HDD 2.5" | Slim Type HDD |
| Mini PCI Card | Wireless LAN IEEE802.11g |

**Test Result for reference !**

| Hard Disk | Stand by | Start up | | Operation | Shut down |
|-----------|----------|----------|--------|-----------|-----------|
| | | Maximum | Stable | Maximum | Maximum |
| Standard HDD | 0.10A | 2.53A | 1.51A | 2.12A | 1.89A |
| Slim Type HDD | 0.10A | 1.51A | 1.04A | 1.67A | 1.43A |

**The power consumption depends on your device choice!**

# Appendix B: Resolution list

| |
|---|
| 640  x 480  x ( 256 / 16bit / 32bit ) |
| 800  x 600  x ( 256 / 16bit / 32bit ) |
| 1024 x 768  x ( 256 / 16bit / 32bit ) |
| 1280 x 1024 x ( 256 / 16bit / 32bit ) |
| 1366 x 768  x ( 256 / 16bit / 32bit ) |
| 1600 x 1200 x ( 256 / 16bit / 32bit ) |

# Warning !

### 1. CF card & 2.5" HDD first boot issue
Due to the frequent update and change of Compact Flash card, it can't always work with 2.5" HDD at the same time. Users may try and get the test result.

### 2. Battery
Battery on board is consumables. Lex doesn't guarantee the life time of it.

### 3. Fanless solution with HDD
Please be aware of specification & limitation for HDD when fanless solution is implemented.

# Warning !

## 1. CF card & 2.5" HDD first boot issue
Due to the frequent update and change of Compact Flash card, it can't always work with 2.5" HDD at the same time. Users may try and get the test result.

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