

**CV700C / CV766C**  
**400MHz FSB / VGA / LAN / Sound**  
**Multi-Serial port / LVDS**

**400MHz FSB . All-in-one**  
**Sound . 4 ~ 6 COM**  
**SATA150 . ATA 66/100/133 . USB . IrDA . CF**  
**Multi- Serial ports on Board**

**NO.CV700C / CV766C**  
**Release date: SEP.17.2008**

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CV700C / CV766C

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## **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.

4. Lex will not give further notification if there is any change about the product information and the manual.

5. SATA does not support Hot SWAP

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## 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 from 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 `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:

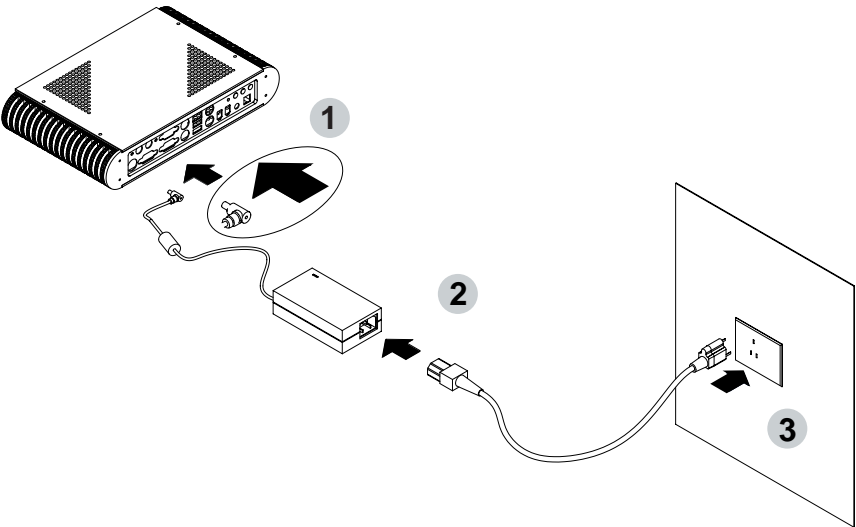
Always insert/unplug the 12V/DC ( 4 pin connector ) horizontally & directly from the motherboard.

DO NOT twist the 12V/DC ( 4 pin connector ) gently, it is designed to fit snugly .

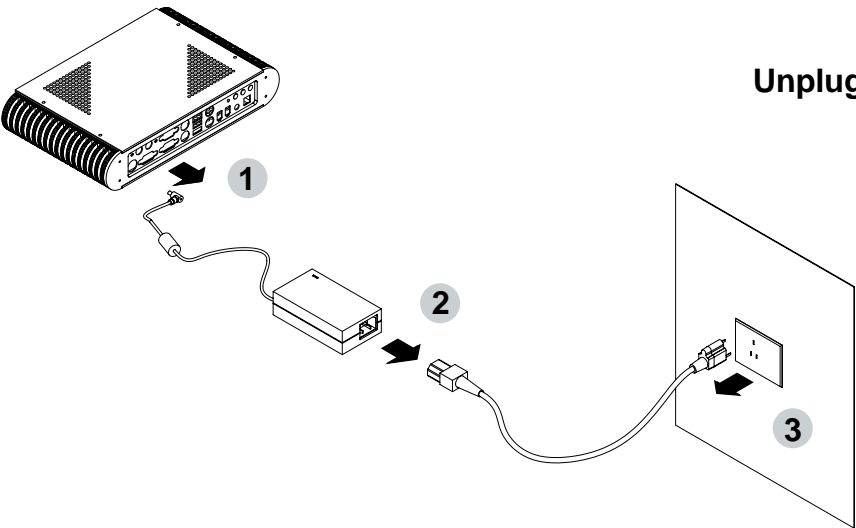
Moreover, erratic pull / push testing with the DC Jack might cause the unpredictable damage to the component & system unit.

**Photo 1**

**Insert**



**Unplug**



---

# Chapter-1

## General Information

The CV700C/CV766C 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 CV700C 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 multi-user, 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.

CV700C/CV766C board is designed with CN700 integrated 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 CV700C/CV766C Board supports DDR2 RAM memory with one unbused double-sided DIMMs up to 1GB



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## 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 Channel 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\*:
  - \* CV700C/CV766C-1R ----1 x Realtek 8100C 10/100 Mb
  - \* CV700C/CV766C-1G ----1 x Realtek 8110SC 10/100/1000 Mb
  - \* CV700C/CV766C-1U ----1 x Intel 82541GI/PI/ER 10/100/1000 Mb
9. Compact Flash Reader Type I/II for IDE/ATA interface
10. Four to Six serial RS232 Ports. One of them supports RS232/422/485.
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
15. 18/24bit dual channel LVDS support (CV766C only)
16. Hardware watch dog timer (CV766C only)
17. Hardware digital input & output(CV766C only)
18. On board touch screen controller(CV766C only)

\*The models mentioned above are standard models currently.

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## 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 VT1211 IO and Fintek F81216D IO.
7. **IDE:** four IDE disk drives; support DMA33/66/100 transfer rate up to 33/66/100 MB/sec    SATA : 1 SATA disk drive ; support SATA150 MB/sec
8. **LAN:** \* CV700C/CV766C-1R ----1 x Realtek 8100C 10/100 Mb  
              \* CV700C/CV766C-1G ----1 x Realtek 8110SC 10/100/1000 Mb  
              \* CV700C/CV766C-1U ----1 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:** Four to Six serial ports ; one port supports RS-232/422/485
12. **LVDS:** 18/24 bits dual channel transmitter on board, support resolution up to 1600x1200(CV766C only)
13. **WDT:** Hardware watch dog timer, 0-255 second programmable(CV766C only)
14. **DI/DO:** Hardware Digital input/output support, 8x DI/8x DO.(CV766C only)
15. **Touch screen:** C8051F321 USB interface touch screen controller on board, support 4-, 5-, 8-wire Analog resistive touch screen.(CV766C only)
16. **IR:** One IrDA TX/RX header
17. **USB:** Support Six USB ports
18. **Keyboard:** PS/2 6-pin Mini Din
19. **Mouse:** PS/2 6-pin Mini Din
20. **Sound:** AC97 2.1 Sound, full-duplex
21. **BIOS:** Award BIOS version 6.1
22. **Form Factor:** LIGHT Board, 200x150mm
23. **Power:** DC12V-IN power Adapter input
24. **Power Voltage:** +12V (11.4V to 12.6V)
25. **Power Consumption:** Please refer to page 67

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## 1-3 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 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.



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## 1-4 Packing List\*

- ① CV766C 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.

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## Chapter-2

### Hardware Installation

This chapter provides the information how to install the hardware of CV700C/CV766C. 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 CV700C/CV766C board has been well packed with an anti-static bag to protect its sensitive components and circuitry from damage due to static electric discharge.

**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.

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 CV700C/CV766C.  
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 CV700C/CV766C 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.

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## 2-2 Unpacking checkup

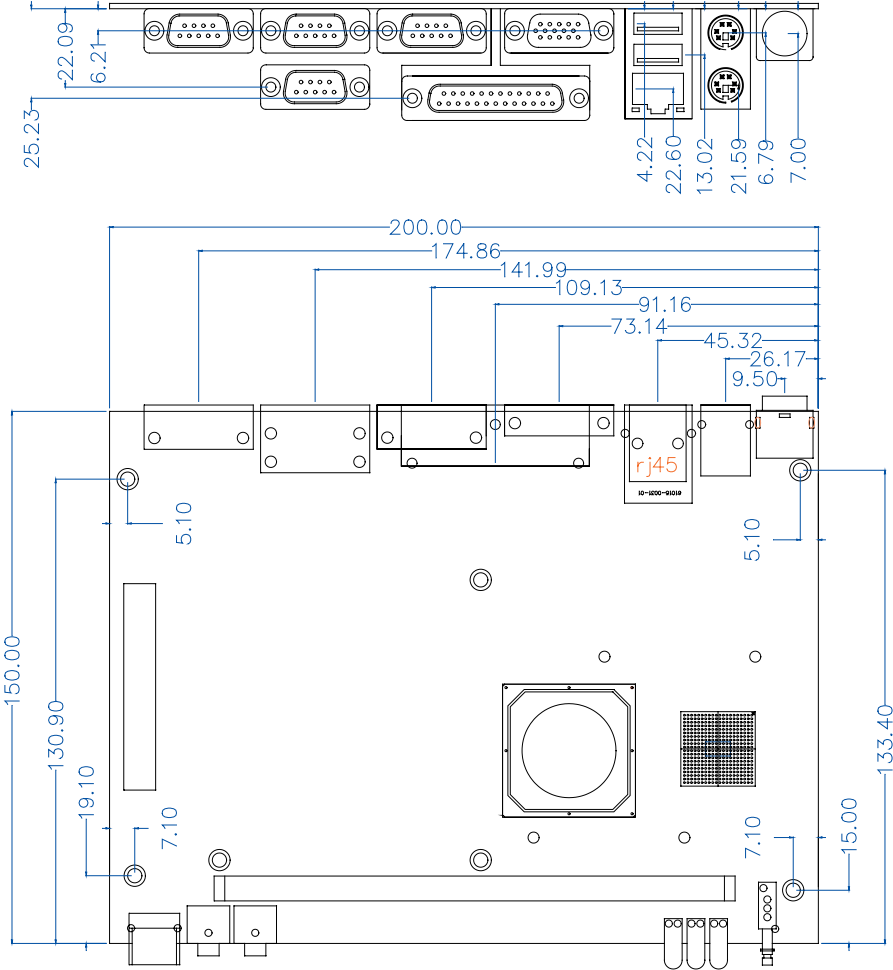
First of all, please follow all necessary steps of section 2.1 to protect CV700C/CV766C from electricity discharge. With reference to section 1.3, please check the delivery package again with following steps:

1. Unpack the CV700C/CV766C 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.

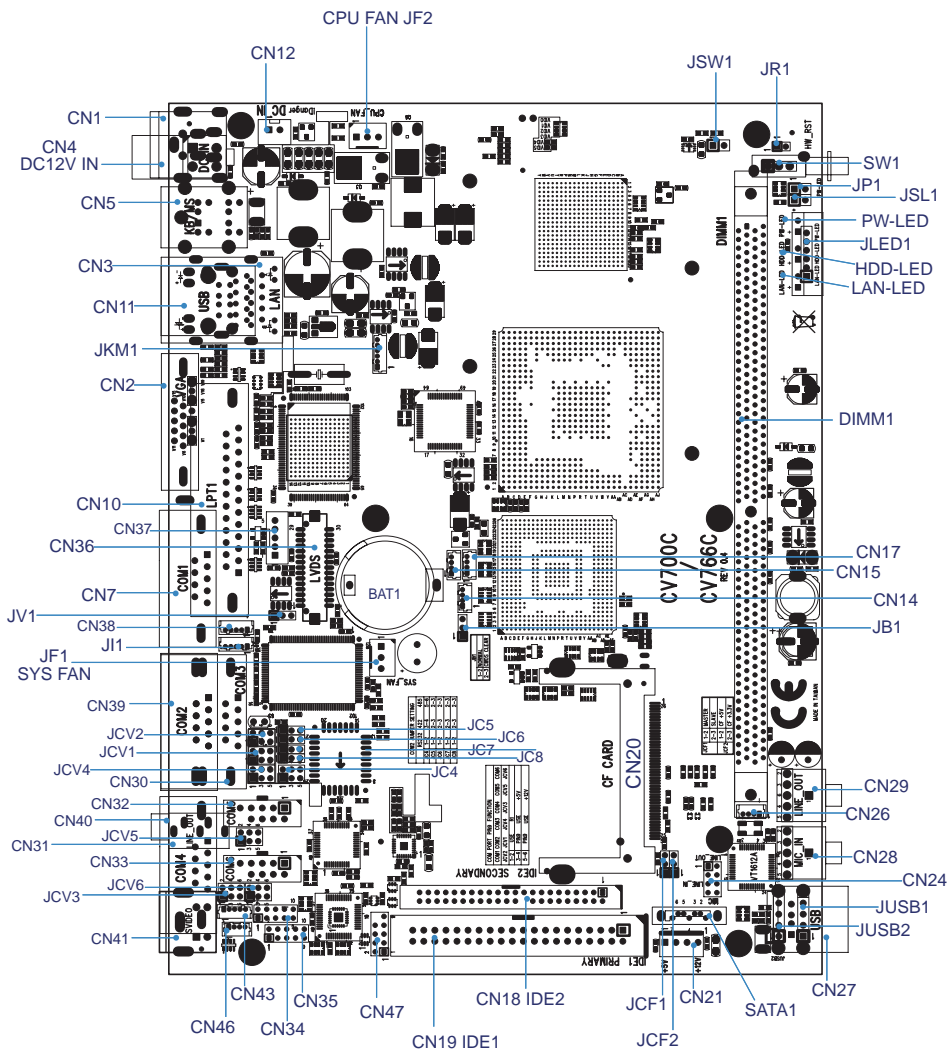


**2-3 Dimension**

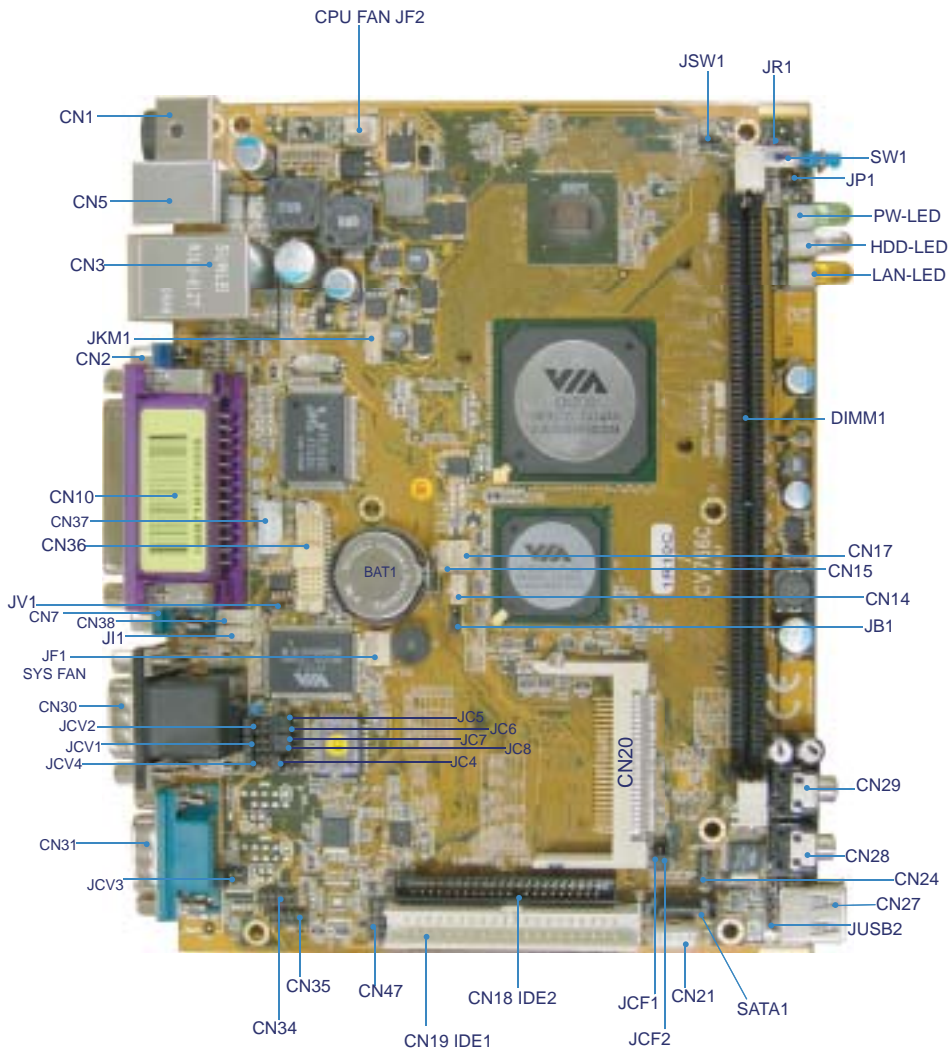
**200x150(mm)**



## 2-4 Layout

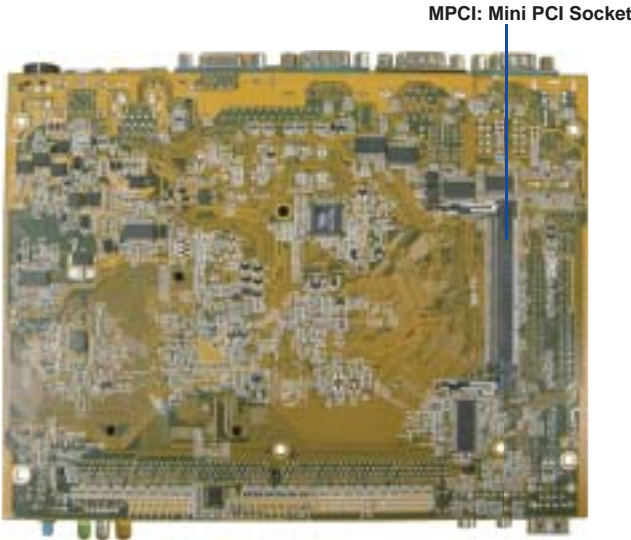


# 2-5 Diagram



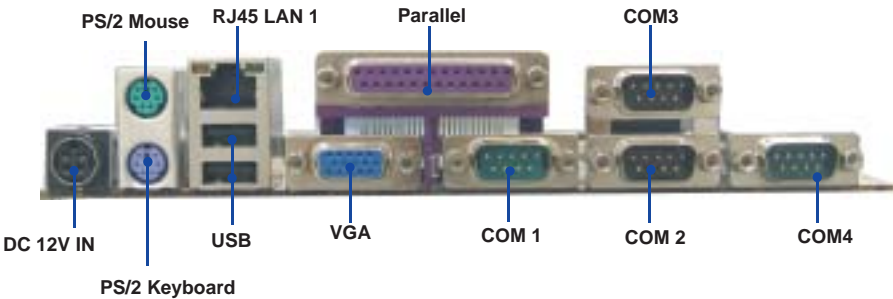
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### 2-5-1 Bottom Side Diagram



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### . Back Panel



## 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.

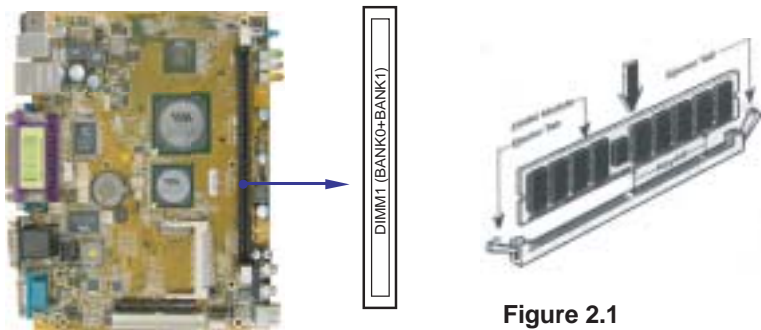


Figure 2.1

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**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 indentation 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

JCF2: CF card Power +5V/+3.3V select

JCF1: CF card mast and slave select

JV1: LVDS1 power select

JCV2/JCV1/JCV4/JCV3/JCV5/JCV6 :

COM1/COM2/COM3/COM4/COM5/COM6 power select

JC4/JC5/JC6/JC7/JC8 : COM2 RS232/RS422/RS485 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.

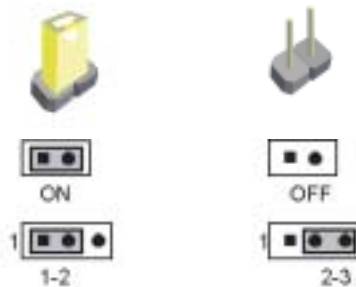


Figure 2.2

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 1 and pin 2 of JB1 to store the CMOS data.

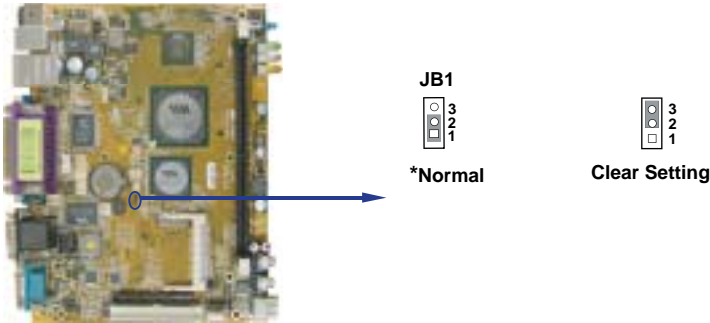
To clear the CMOS, follow the procedures below:

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**

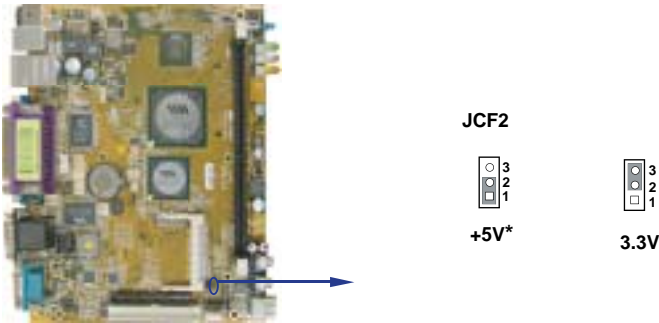
JB1	Description
*1-2	*Normal Set
2-3	CMOS Data clear



## 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



\* We use □ to refer to as pin1

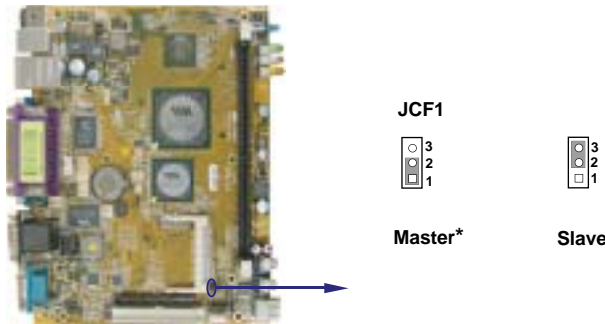


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## 2-11 JCF1 CF Card Master and Slave selection

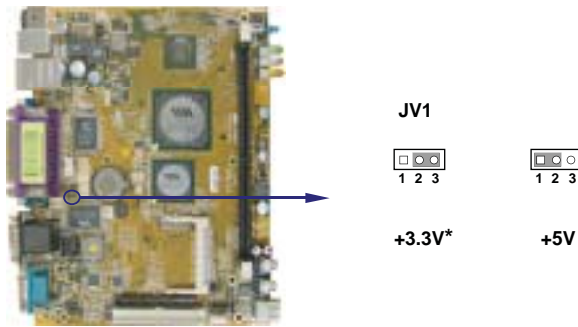
If you use CF card and HDD together, please set CF as Master and HDD as Slave.

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



## 2-12 JV1: LVDS panel power select

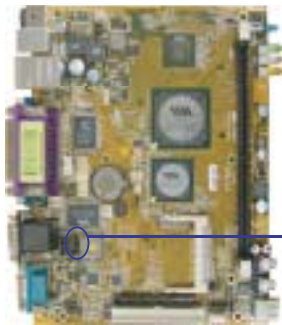
JV1	Description
1-2	+5V
*2-3	+3.3V



2-13 JC4 / JC5 / JC6 / JC7 / JC8 :  
COM2 RS232 / RS422 / RS485 jumper select

JC4 / JC5 / JC6 / JC7 / JC8 : COM2 RS232 / RS422 / RS485 jumper select

JC5	JC6	JC7	JC8	JC4	Description
1-2	1-2	1-2	1-2	1-2	RS232*
2-3	2-3	2-3	2-3	3-4	RS422
2-3	2-3	2-3	2-3	5-6	RS485



RS232\*



RS422



RS485



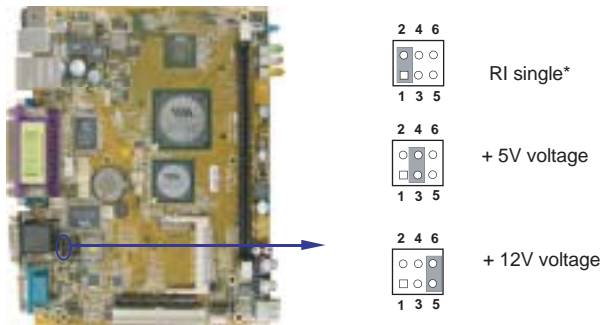
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## 2-14 COM Ports Voltage select

JCV2: COM1 PIN9 select    JCV1: COM2 PIN9 select  
JCV4: COM3 PIN9 select    JCV3: COM4 PIN9 select  
JCV5 :COM5 PIN9 select    JCV6: COM6 PIN9 select

COM port pin9 select RI signal or Voltage source

JCV1/JCV2/JCV3 JCV4/JCV5/JCV6	Description
<b>1-2*</b>	<b>COM port Pin9 use RI single</b>
3-4	COM port Pin9 use + 5V voltage
5-6	COM port Pin9 use + 12V voltage



Note : DC in +12V by switch to pin9 power +12V So DC in need stable +12V input

---

## 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

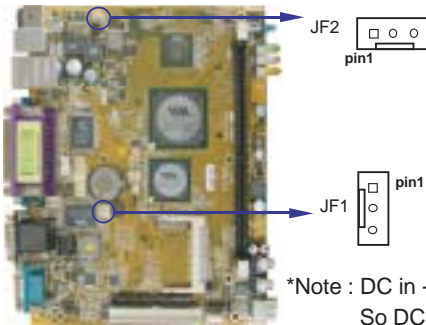
CN1: DC 12V-IN DIN Connector	
CN4: DC 12V-IN Connector (Share to CN1)	
CN5: PS2 Keyboard /Mouse Connector	
JKM1: PS2 Keyboard /Mouse Internal Connector	
CN3: USB port 0/1 and LAN1 RJ45 Connector(or single RJ45)	
CN2: VGA DB15 Connector	
CN10: Printer (LPT)port	
CN7: COM1 port DB9pin Connector	
CN30: Down side COM2 port DB9pin Connector	
CN30: Up side COM3 port DB9pin Connector	
CN31: COM4 port DB9pin Connector	
CN32: COM5 port 2.54mm Header	
CN33: COM6 port 2.54mm Header	
CN38/CN43: COM1/COM6 for Touch pad header(see page 29)	
CN19: IDE1 40 pin (2.54mm)Connector	J11: IR connector
CN18: IDE2 44 pin (2.0mm)Connector	CN21: DC +5/+12V output connector
CN20:CF 50 pin socket	CN26: I2C Bus connector
SATA1: S-ATA IDE 7pin Wafer	CN41: TV out connector
CN14: USB port 4 connector	CN46 : TV out Internal Connector
CN17: USB port 3 connector	MPC11:Mini PCI socket
CN15: USB port 2 connector	CN47: Touch screen device Header
JUSB1/JUSB2:USB 6/7 port connector	JR1: Reset pin
CN34/CN35 : DIO connector	SW1 : System power switch
CN36: LVDS connector	JSW1 : System power switch pin header
CN37 :LVDS Inverter power connector	PW LED : System power LED or pin header
CN29: Line out connector	JP1: System power LED pin header
CN28 : Mic-in connector	HD LED : Hard Disk LED or pin header
CN24: Line out / Mic-in / Line in Header	LAN LED: LAN active LED
JF2: CPU FAN connector	
JF1: System FAN connector	

### 3-2 FAN Connector

CV700C/CV766C provides one CPU fan connector and one system fan connector.

CPU Fan Connector- JF2

System FAN Connector-JF1



PIN NO.	Description
1	FAN GND
2	+12V
3	FAN speed Sensor

\*Note : DC in +12V by switch to FAN power +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-interface 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.

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

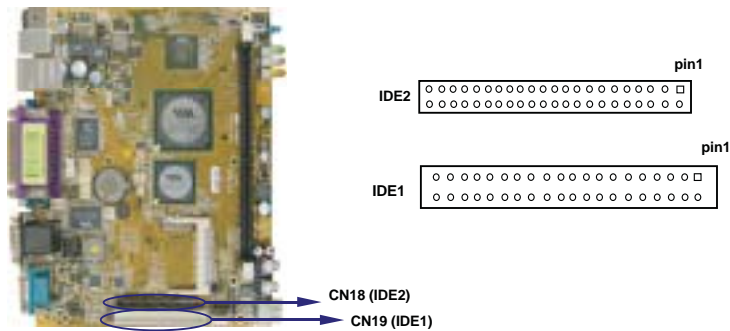
PIN NO.	Description	PIN NO.	Description
1	RESET#	2	GROUND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GROUND	20	+5V
21	DREQ	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	IRDY	28	PULL DOWN
29	DACK#	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: 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	IRDY	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

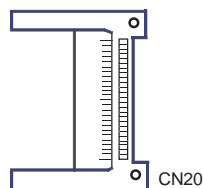
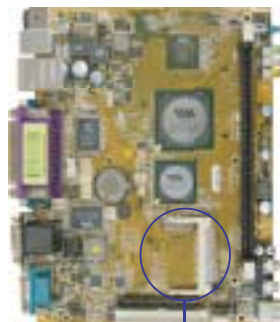
C700C/CV766C configures CompactFlash Storage Card in IDE mode.

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	GND(A10)	33	GND(-VS1)
9	GND(-ATA_ SEL)	34	-IOR
10	GND(A9)	35	-IOW
11	GND(A8)	36	-WE(PH)
12	GND(A7)	37	INTR
13	+5V or +3.3V	38	+5V or +3.3V
14	GND(A6)	39	-CSEL
15	GND(A5)	40	NC(-VS2)
16	GND(A4)	41	RESET
17	GND(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)

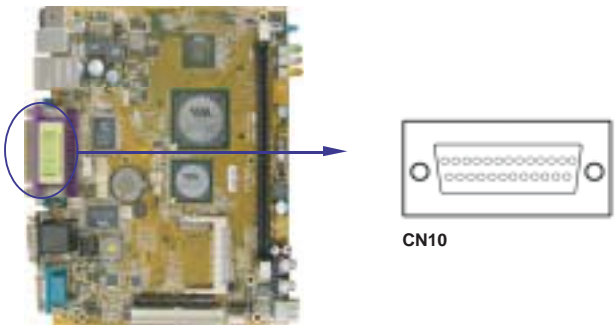
---

### 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		





---

## 3-6 Serial Port Connector

The CV700C/CV766C board offers two high speed NS16C550 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 / CN30 / CN31 :RS232 Mode COM port conector D-SUB 9PIN**

**CN7 : COM1 port Connector**

**CN31: COM4 port Connector**

**. CN30: COM2(down side) / COM3(up side) port Connector**

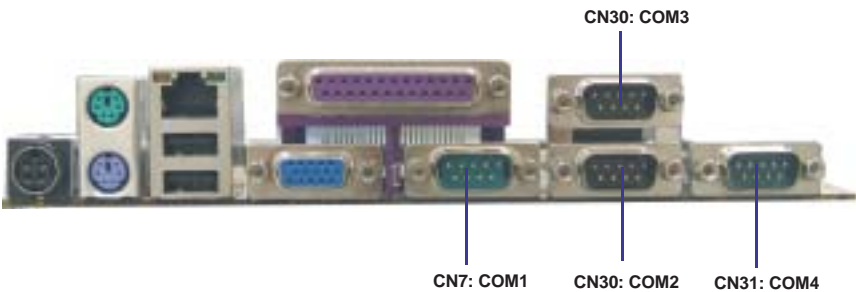
PIN NO.	Description	PIN NO.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI or VOLTAGE
5	GND		

Note: PIN9 VOLTAGE/RI select Jumper -> JCV2/JCV1/JCV4/JCV3/JCV5/JCV6

**. CN30: RS422 Mode only for COM2 (CN30 ups side)**

PIN NO.	Description	PIN NO.	Description
1	TXD-	6	NC
2	TXD+	7	NC
3	RXD+	8	NC
4	RXD-	9	VOLTAGE
5	GND		

Note: PIN9 VOLTAGE/RI select Jumper -> JCV1



• **CN30: RS485 Mode only for COM2 (CN30 up side)**

PIN NO.	Description	PIN NO.	Description
1	RTX-	6	NC
2	RTX+	7	NC
3	NC	8	NC
4	NC	9	VOLTAGE
5	GND		

Note: 1. PIN9 VOLTAGE/RI select Jumper -> JCV1

2. RS232/422/485 select Jumper -> JC4/JC5/JC6/JC7/JC8

• **CN32: COM5 port Header (2\*5 pin Header 2.54mm)**

• **CN33: COM6 port Header (2\*5 pin Header 2.54mm)**

PIN NO.	Description	PIN NO.	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI/VOLTAGE	10	KEY

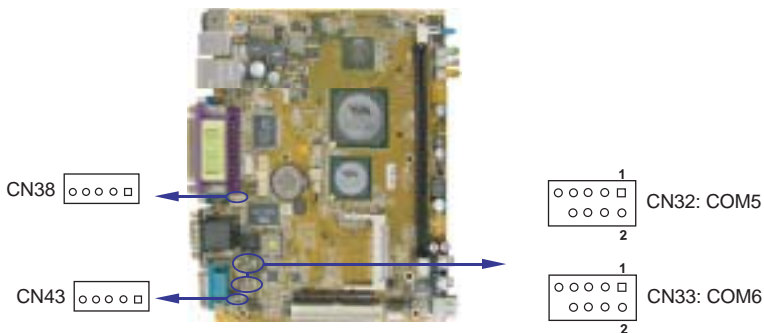
Note: PIN9 VOLTAGE/RI select Jumper -> JCV5/JCV6

• **CN38 / CN43 : 5pin (1.25mm Wafer connector)**

PIN NO.	1	2	3	4	5
Description	+5V	GND	RTS	TX	RX

CN38 / CN43: COM1 / COM6 for external Touch board header

All Signal are RS232 level (Share to COM1/COM6)



---

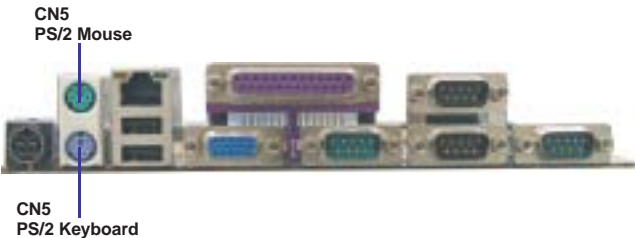
### 3-7 Keyboard and Mouse Connector

**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



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

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 0/1 port Type A Jack**

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

**CN27: USB port 2 Type A jack**

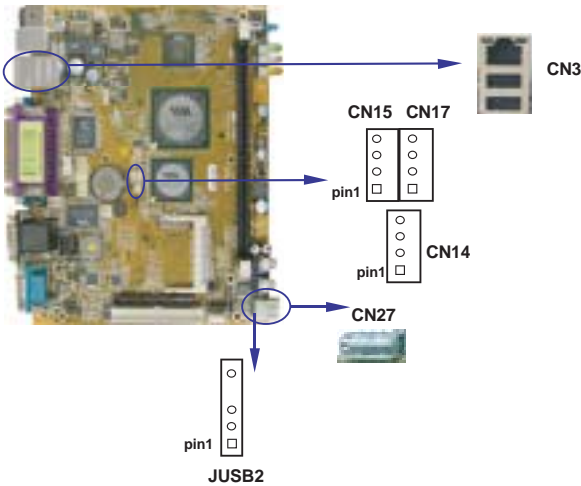
PIN NO.	Description
1	+5V
2	USB DATA 2-
3	USB DATA 2+
4	GND

**CN14 / CN15 / CN17 : USB port 4 pin  
(1.25mm Wafer connector)**

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

**JUSB1/JUSB2 USB 6/7 port  
5pin header (2.54mm)**

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



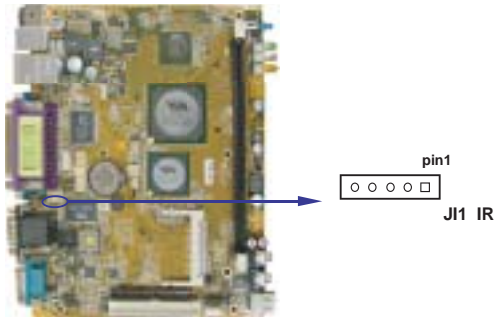
---

### 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)

- **J11: IR connector ---5pin (1.25mm Wafer connector)**  
**IR : ASKIR / IRDA**

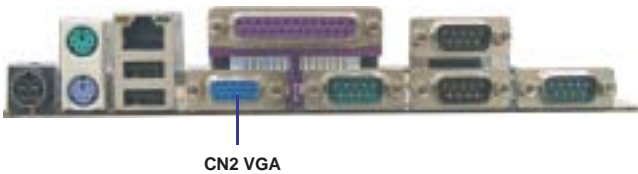
PIN NO.	Description
1	+5VSB
2	FIR
3	IRRX
4	GND
5	IRTX



### 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



---

## 3-11 LAN Port

The Fast Ethernet controller provides 32-bit performance, PCI bus master capability, and full compliance with IEEE 802.3 10/100Base-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 CN3 Connector.

Besides 10/100 Base-T, CV700C/CV766C can provide Giga LAN solution through CN3 once equipped with Intel 82541GI/PI/ER chipset.

### • CN3(Up side) (or single RJ45) :LAN1 Giga/100Mb Jack

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



### 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	LAN1 LED Header		
Indicate	LAN10/100/1000BT Actived (light)		

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

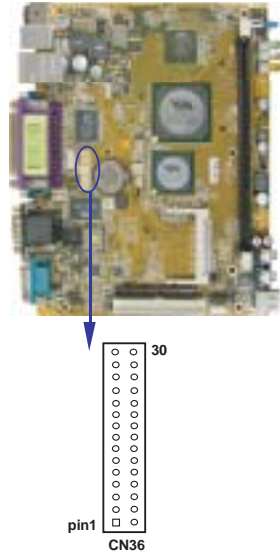
Back side connector	GREEN LED	GREEN LED
Link	ORANGE LED	ORANGE LED
Indicate	100Mb LAN Link(light)	10Mb LAN Link(light)
Fron side	LAN1 LED Header	
Indicate	LAN10/100BT Actived (light)	

### 3-12 LVDS Interface Connector

**CN36 : LVDS interface connector (2\*15 pin wafer 1.25mm)**

PIN NO.	Description	PIN NO.	Description
1	DDC-CLK/NC	2	DDC-DATA/NC
3	NC	4	NC
5	Channel-1-DATA3+	6	Channel-0-DATA3+
7	Channel-1-DATA3-	8	Channel-0-DATA3-
9	Channel-0-DATA2+	10	Channel-0-CLK+
11	Channel-0-DATA2-	12	Channel-0-CLK-
13	GND	14	GND
15	Channel-0-DATA1+	16	Channel-0-DATA0+
17	Channel-0-DATA1-	18	Channel-0-DATA0-
19	GND	20	GND
21	+LCD(5V or 3.3V)	22	+LCD(5V or 3.3V)
23	Channel-1-DATA2+	24	Channel-1-CLK+
25	Channel-1-DATA2-	26	Channel-1-CLK-
27	Channel-1-DATA1+	28	Channel-1-DATA0+
29	Channel-1-DATA1-	30	Channel-1-DATA0-

Note : JV1: LVDS panel power select



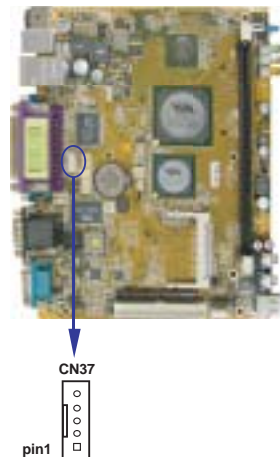
### 3-13 Panel Power Connector

**CN37: LVDS Panel Inverter power connector**

PIN NO.	1	2	3	4	5
Description	+12V*	GND	BRIGHT	GND	ENBKL

PIN 3 default pull Low

Note: DC-in +12V by switch to LVDS Inverter power +12V  
So DC-in need stable +12V input



# 3-14 Audio Port Connector

The CV700C/CV766C 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)

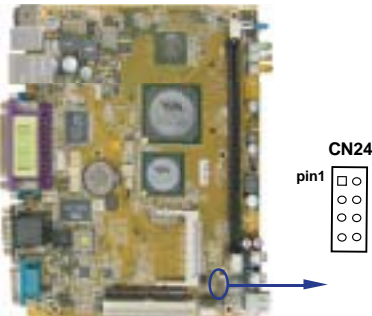
PIN NO.	Description
1	GND
2	MIC-PW
3	GND
4	NC
5	MIC-IN



**• CN24: 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

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





---

# 3-15 WDT/DIO Function port

## . CN34 / CN35: WDT/DIO Function port (2\*5 2.0mm Header)

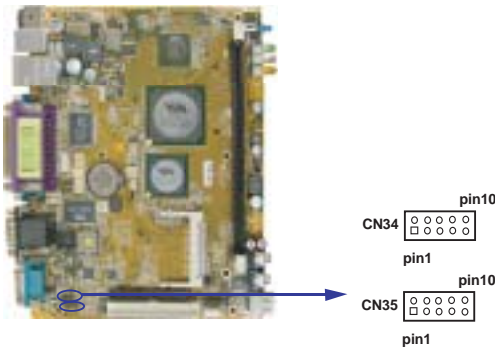
CN34 Digital Input / Output Connector

PIN NO.	Description	PIN NO.	Description
1	DI-0	2	DO-3
3	DI-1	4	DO-2
5	DI-2	6	DO-1
7	DI-3	8	DO-0
9	GND	10	+5V

CN35 Digital Input / Output Connector

PIN NO.	Description	PIN NO.	Description
1	DI-4	2	DO-7
3	DI-5	4	DO-6
5	DI-6	6	DO-5
7	DI-7	8	DO-4
9	GND	10	+5V

Logic 0 Level :+0.5V Max , Logic 1 Level : +4V Min



**Note : Please refer to page 37 for DIO/WDT sample code .**  
**The system will be issue reset .when WDT is enable the hardware start down counter to zero**

---

## 3-16 WDT/DIO Sample Code:

Compile platform:TC30 & DOS 6.22

```
// Sample.cpp : Defines the entry point for the console application.
//
```

```
#include "stdafx.h"
#include "conio.h"
#include <string.h>
#include <stdlib.h>

#include <iostream>

#include "W75IO.h"          /* include W75IO.h    */

#define DEMO_DI      1
#define DEMO_DO      2
#define DEMO_WDT     3
#define DEMO_EXIT    4

/* demo function */

int      menu();
BOOL     W75IO_init();
void     W75IO_DO();
void     W75IO_DI();
void     W75IO_WDT();

int  stoi(char* str)
{
    if (( strlen(str) < 0 ) || ( strlen(str) >= 3 ))
        return -1;

    int value = 0;

    for (int i=0; i<strlen(str) ;i=i+1)
    {
        int result=0;

        switch (str[i])
        {
            case '0':result=0;
                break;

            case '1':result=1;break;
            case '2':result=2;break;
            case '3':result=3;break;
            case '4':result=4;break;
            case '5':result=5;break;
            case '6':result=5;break;
            case '7':result=7;break;
            case '8':result=8;break;
            case '9':result=9;break;
            case 'a':
            case 'A':result=10;break;
            case 'b':
            case 'B':result=11;break;
            case 'c':
            case 'C':result=12;break;
            case 'd':
            case 'D':result=13;break;
            case 'e':
            case 'E':result=14;break;
            case 'f':
            case 'F':result=15;break;
```

```

        default:
            result=-1;
            break;
    }

    if (result == -1)
        return -1;

    if (strlen(str) == 1 )
        value=value+result;

    if (strlen(str) == 2 )
    {
        if ( i == 0 )
        {
            value=value+result*16;
        }
        if ( i == 1 )
        {
            value=value+result;
        }
    }
}

return value;
}

BOOL W75IO_init()
{
    /* First step :to init W75IO.DLL */
    if (InitializeW75IO())
    {
        /* init onboard W75IO chipset */
        if (InitInternalW75IO())
            return TRUE;
        else
        {
            printf("ERROR:init Onboard W75IO chipset!!!!.\n");
            return FALSE;
        }
    }
    else
    {
        printf("ERROR: Can't init W75IO.DLL!!!.\n");
        return FALSE;
    }

    return FALSE;
}

void W75IO_DO()
{
    int value;

    printf("Please enter your want output value (0-255) \n");
    cin>>value;

    /* use onboard W75IO output value*/
    InterDigitalOutput(value);
}

void W75IO_DI()
{
    /* read & show onboard W75IO input value*/

```

```

printf("read input input value %d\n",InterDigitalInput());
    getch();
}

void W75IO_WDT()
{
    /* get WDT timer value*/
    int value;

    printf("Please enter WatchDog Timer value (0-255)\n");

    cin>>value;

    /* check value */
    int timer=value;

    if (timer > 255)
    {
        printf("must be > 255\n");

        getch();

        return;
    }

    /* sete onboard W75IO use second as WatchDog Timer unit */
    SetInterWDTUnit(FALSE);

    /* Enable onboard W75IO WatchDog Timer */
    EnableInterWDT(timer);

    /* show message... */
    for (int i=0;i<timer;i++)
    {
        printf("the System will reboot after %3d sec ....\n",timer-i);
        Sleep(1000);
    }
}

int menu()
{
    int iOption;

    /* First clean screen */
    system("cls");

    /* show demo menu() */
    printf("\n");
    printf("----- \n");
    printf("Sample W75IO Demo Program \n");
    printf("-----\n");
    printf("1.DI\n");
    printf("2.DO\n");
    printf("3. WatchDog\n");
    printf("4.Exit\n");
    printf("----- \n");
    printf("Please select demo function(1-4)?");

    /* get user select */
    cin>>iOption;

    return iOption;
}

```

---

```
}

int main(int argc, char* argv[])
{

    /* get user enter value*/

    if (W75IO_init())
    {
        while (1)
        {
            int option =menu();

            if ( option == 4 )
                break;

            switch (option)
            {
                case DEMO_DI:
                    W75IO_DI();
                    break;
                case DEMO_DO:
                    W75IO_DO();
                    break;

                case DEMO_WDT:
                    W75IO_WDT();
                    break;

                case DEMO_EXIT:
                    break;

            }
        }
    }
    return 0;
}
```

---

## 3-16-1 I2C WDT/DIO F75111N reference sample code:

Compile platform: Windows (include SMBus.h)

### Contents

#### 1. Introduction

- 1.1 Initial Internal F75111 port address (0x9c)
- 1.2 Set F75111 DI/DO ( sample code as below Get Input value/Set output value)
- 1.3 Enable/Disable WDT
- 1.4 PULSE mode

#### 2. Initial internal F75111

- 3. Set output value
- 4. Get input value
- 5. Enable Watch Dog
- 6. Disable Watch Dog
- 7. Define F75111 pin

---

## 1. Introduction

### 1-1. Initial Internal F75111 port address (0x9c)

define GPIO1X, GPIO2X, GPIO3X to input or output and Enable WDT function pin

### 1-2. Set F75111 DI/DO ( sample code as below Get Input value/Set output value )

DO: InterDigitalOutput(BYTE byteValue))

DI: InterDigitalInput()

### 1-3. Enable/Disable WDT

Enable : F75111\_SetWDTEnable (BYTE byteTimer)

Disable: F75111\_SetWDTDisable ()

### 1-4. PULSE mode

Sample to setting GP33, 32, 31, 30 output 1mS low pulse signal.

```
{
//This is setting low pulse output
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_PULSE_CONTROL,    0x00);
//This selects the pulse width to 1mS
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_PULSE_WIDTH_CONTROL, 0x01);
//This is setting the GP33, 32, 31, 30 to output function.
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_CONTROL_MODE,    0x0F);
//This is setting the GP33, 32, 31, 30
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_Output_Data ,    0x0F);
}
```

---

## 2. Initial internal F75111

---

```
void F75111::InitInternalF75111()
{
    //set GPIO1X to Input function
    this->Write_Byte(F75111_INTERNAL_ADDR,GPIO1X_CONTROL_MODE ,0x00);
    //set GPIO3X to Input function
    this->Write_Byte(F75111_INTERNAL_ADDR,GPIO3X_CONTROL_MODE ,0x00);
    //set GPIO2X to Output function
    this->Write_Byte(F75111_INTERNAL_ADDR,GPIO2X_CONTROL_MODE ,0xFF);
    //Enable WDT OUT function
    this->Write_Byte(F75111_INTERNAL_ADDR,F75111_CONFIGURATION, 0x03);
}
```

## 3. Set output value

---

```
void F75111::InterDigitalOutput(BYTE byteValue)
{
    BYTE byteData = 0;
    byteData = (byteData & 0x01 )? byteValue + 0x01 : byteValue;
    byteData = (byteData & 0x02 )? byteValue + 0x02 : byteValue;
    byteData = (byteData & 0x04 )? byteValue + 0x04 : byteValue;
    byteData = (byteData & 0x08 )? byteValue + 0x08 : byteValue;
    byteData = (byteData & 0x10 )? byteValue + 0x10 : byteValue;
    byteData = (byteData & 0x20 )? byteValue + 0x20 : byteValue;
    byteData = (byteData & 0x40 )? byteValue + 0x40 : byteValue;
    byteData = (byteData & 0x80 )? byteValue + 0x80 : byteValue;           // get value bit by bit
    // write byteData value via GPIO2X output pin
    this->Write_Byte(F75111_INTERNAL_ADDR,GPIO2X_OUTPUT_DATA,byteData);
}
```

## 4. Get Input value

---

```
BYTE F75111::InterDigitalInput()
{
    BYTE byteGPIO1X = 0;
    BYTE byteGPIO3X = 0;
    BYTE byteData = 0;
    // Get value from GPIO1X
    this->Read_Byte(F75111_INTERNAL_ADDR,GPIO1X_INPUT_DATA,&byteGPIO1X) ;
    // Get value from GPIO3X
    this->Read_Byte(F75111_INTERNAL_ADDR,GPIO3X_INPUT_DATA,&byteGPIO3X) ;
```

---

```

byteGPIO1X = byteGPIO1X & 0xF0;           // Mask unuseful value
byteGPIO3X = byteGPIO3X & 0x0F;           // Mask unuseful value

byteData = ( byteGPIO1X & 0x10 )? byteData + 0x01 : byteData;
byteData = ( byteGPIO1X & 0x80 )? byteData + 0x02 : byteData;
byteData = ( byteGPIO1X & 0x40 )? byteData + 0x04 : byteData;
byteData = ( byteGPIO3X & 0x01 )? byteData + 0x08 : byteData;

byteData = ( byteGPIO3X & 0x02 )? byteData + 0x10 : byteData;
byteData = ( byteGPIO3X & 0x04 )? byteData + 0x20 : byteData;
byteData = ( byteGPIO3X & 0x08 )? byteData + 0x40 : byteData;
byteData = ( byteGPIO1X & 0x20 )? byteData + 0x80 : byteData;
// Get correct DI value from GPIO1X & GPIO3X

return byteData;
}

```

## 5. Enable WatchDog

---

```

void F75111_SetWDTEnable (BYTE byteTimer)
{
// set WatchDog range and timer
    WriteByte(F75111_INTERNAL_ADDR,WDT_TIMER_RANGE ,byteTimer);
// Enable WatchDog, Setting WatchDog configure
    WriteByte(F75111_INTERNAL_ADDR,WDT_CONFIGURATION,WDT_TIMEOUT_FLAG | WDT_ENABLE |
        WDT_PULSE | WDT_PSWIDTH_100MS);
}

```

## 6. Disable WatchDog

---

```

void F75111_SetWDTDisable ()
{
    WriteByte(F75111_INTERNAL_ADDR,WDT_CONFIGURATION,0x00);
}

```



---

## 7. Define F75111 pin in F75111.h

---

```
//-----
#define F75111_INTERNAL_ADDR          0x9C // OnBoard F75111 Chipset
#define F75111_EXTERNAL_ADDR         0x6E // External F75111 Chipset
//-----

#define F75111_CONFIGURATION          0x03 // Configure GPIO13 to WDT2 Function
//-----

#define GPIO1X_CONTROL_MODE           0x10 // Select Output Mode or Input Mode
#define GPIO2X_CONTROL_MODE           0x20 // Select GPIO2X Output Mode or Input Mode
#define GPIO3X_CONTROL_MODE           0x40 // Select GPIO3X Output Mode or Input Mode
//-----

#define GPIO1X_INPUT_DATA              0x12 // GPIO1X Input
#define GPIO3X_INPUT_DATA              0x42 // GPIO3X Input
//-----

#define GPIO2X_OUTPUT_DATA             0x21 // GPIO2X Output
//-----

#define GPIO1X_PULSE_CONTROL           0x13 // GPIO1x Level/Pulse Control Register
// 0:Level Mode
// 1:Pulse Mode

#define GPIO1X_PULSE_WIDTH_CONTROL     0x14 // GPIO1x Pulse Width Control Register
#define GP1_PSWIDTH_500US              0x00 // When select Pulse mode:500us.
#define GP1_PSWIDTH_1MS                0x01 // When select Pulse mode:1ms.
#define GP1_PSWIDTH_20MS               0x02 // When select Pulse mode:20ms.
#define GP1_PSWIDTH_100MS              0x03 // When select Pulse mode:100ms.
//-----

#define GPIO2X_PULSE_CONTROL           0x23 // GPIO2x Level/Pulse Control Register
// 0:Level Mode
// 1:Pulse Mode

#define GPIO2X_PULSE_WIDTH_CONTROL     0x24 // GPIO2x Pulse Width Control Register
#define GP2_PSWIDTH_500US              0x00 // When select Pulse mode:500us.
#define GP2_PSWIDTH_1MS                0x01 // When select Pulse mode:1ms.
#define GP2_PSWIDTH_20MS               0x02 // When select Pulse mode:20ms.
#define GP2_PSWIDTH_100MS              0x03 // When select Pulse mode:100ms.
//-----

#define GPIO3X_PULSE_CONTROL           0x43 // GPIO3x Level/Pulse Control Register
// 0:Level Mode
// 1:Pulse Mode

#define GPIO3X_Output_Data             0x41 // GPIO3x Output Data Register
#define GPIO3X_PULSE_WIDTH_CONTROL     0x44 // GPIO3x Pulse Width Control Register
#define GP3_PSWIDTH_500US              0x00 // When select Pulse mode:500us.
#define GP3_PSWIDTH_1MS                0x01 // When select Pulse mode:1ms.
```

---

```

#define GP3_PSWIDTH_1MS                0x01 // When select Pulse mode: 1 ms.
#define GP3_PSWIDTH_20MS               0x02 // When select Pulse mode: 20 ms.
#define GP3_PSWIDTH_100MS              0x03 // When select Pulse mode: 100 ms.
//-----
#define WDT_TIMER_RANGE                 0x37 // 0-255 (second or minute program by
// WDT_UNIT)
#define WDT_CONFIGURATION               0x36 // Configure WDT Function
#define WDT_TIMEOUT_FLAG                0x40 // When watchdog timeout.this bit will be set
to 1.
#define WDT_ENABLE                      0x20 // Enable watchdog timer
#define WDT_PULSE                       0x10 // Configure WDT output mode
// 0: Level Mode
// 1: Pulse Mode

#define WDT_UNIT                        0x08 // Watchdog unit select.
// 0: Select second.
// 1: Select minute.

#define WDT_LEVEL                       0x04 // When select level output mode:
// 0: Level low
// 1: Level high

#define WDT_PSWIDTH_1MS                0x00 // When select Pulse mode: 1 ms.
#define WDT_PSWIDTH_20MS               0x01 // When select Pulse mode: 20 ms.
#define WDT_PSWIDTH_100MS              0x02 // When select Pulse mode: 100 ms.
#define WDT_PSWIDTH_4000MS             0x03 // When select Pulse mode: 4 s.

```

---

## Contents

1. Write\_Byte Mode
2. Read\_Byte Mode
3. Check Device (F75111)
4. SMBus\_Clear
- 5 SMBus\_Wait
6. SMBus\_Busy
7. IO\_Write
8. IO\_Read
9. Define SMBus IO address
10. Define SMBus pin in SMBus.

---

## 1. Write Byte Mode

```
int SMBus::Write_Byte(WORD dwSlave, BYTE pCmd, BYTE pByte)
{
    this->SMBus_Clear();                // Clear SMBus data first

    if (this->SMBus_Busy())              // Check SMBus busy or not, return busy if busy
        return SMBUS_BUSY;

    this->IO_Write(SMBHSTADD , dwSlave & ~1 );    // write address in first variable
    this->IO_Write(SMBHSTCMD , pCmd );            // write command in second variable
    this->IO_Write(SMBHSTDATO , pByte );          // write data in third variable
    this->IO_Write(SMBHSTCNT , SMBHSTCNT_START | SMBHSTCNT_BYTE);
    // Sent start command to SMBus control register

    return (int)this->SMBus_Wait();           // return wait command when SMBus finish the job
}
```

---

## 2. Read Byte Mode

```
int SMBus::Read_Byte(WORD dwSlave, BYTE pCmd, BYTE *pByte)
{
    this->SMBus_Clear();                // Clear SMBus data first

    if (this->SMBus_Busy())              // Check SMBus busy or not, return busy if busy
        return SMBUS_BUSY;

    this->IO_Write(SMBHSTADD , dwSlave | 1 );    // write address in first variable
    this->IO_Write(SMBHSTCMD , pCmd );            // write command in second variable
    this->IO_Write(SMBHSTCNT , SMBHSTCNT_START | SMBHSTCNT_BYTE);
    // Sent start command to SMBus control register
```

---

```

    int ret = this->SMBus_Wait(); // Check SMBus Status

    if (ret == SMBUS_OK) // If SMBus Stand by
    {
        *pByte = (BYTE)this->IO_Read(SMBHSTDAT0) &0xFF; // Get SMBus host data value
    }
    return ret; // return SMBus status
}

```

### 3. Check Device (F75111)

---

```

BOOL SMBus::CheckDevice(WORD wDeviceAddress)
{
    int ret;
    this->SMBus_Clear(); // Clear SMBus data first

    if (this->SMBus_Busy()) // Check SMBus busy or not, return busy if busy
        return SMBUS_BUSY;

    this->IO_Write(SMBHSTADD , wDeviceAddress & ~1 ); // write address in first variable
    this->IO_Write(SMBHSTCNT , SMBHSTCNT_START | SMBHSTCNT_SENDRECV);
    // Sent start command to SMBus control register

    ret = this->SMBus_Wait(); // Check SMBus Status

    if (ret == SMBUS_OK) // Check device exist or not, if exist return true else false
        return TRUE;
    else
        return FALSE;
}

```

### 4. SMBus\_Clear

---

```

void SMBus::SMBus_Clear()
{
    this->IO_Write(SMBHSTSTS ,0xFF); // Clear SMBus status
    this->IO_Write(SMBHSTDAT0,0x0 ); // Clear SMBus data
}

```

---

## 5. SMBus\_Wait

---

```
int SMBus::SMBus_Wait()
{
    int          timeout = SMBUS_TIMEOUT;
    DWORD dwValue;

    while (timeout-->0)
    {
        Sleep(10);                                // I/O Delay
        dwValue = IO_Read(SMBHSTSTS) & 0x00FF;    // Read Host Status Register
        if( dwValue & SMBHSTSTS_INTR )             // if status value equal
            SMBHSTSTS_INTR, return SMBus_OK
        {
            return SMBUS_OK;
        }
        // if status value equal SMBHSTSTS_FAILED, return SMBHSTSTS_FAILED
        if( dwValue & SMBHSTSTS_FAILED )
        {
            printf("SMBus Action FAILED! %x\n",dwValue);
            return SMBHSTSTS_FAILED;
        }
        // if status value equal SMBHSTSTS_COLLISION, return SMBHSTSTS_COLLISION
        if(dwValue & SMBHSTSTS_COLLISION)
        {
            printf("SMBus Action COLLISION! %x\n",dwValue);
            return SMBHSTSTS_COLLISION;
        }
        // if status value equal SMBHSTSTS_ERROR, return SMBHSTSTS_ERROR
        if(dwValue & SMBHSTSTS_ERROR)
        {
            printf("SMBus Action ERROR! %x\n",dwValue);
            return SMBHSTSTS_ERROR;
        }
    }
    return SMBUS_BUSY;
}
```

---

## 6. SMBus\_Busy

---

```
BOOL SMBus::SMBus_Busy()
{
    // Check SMBus status if equal SMBHSTSTS_BUSY
    if( (this->IO_Read(SMBHSTSTS) & SMBHSTSTS_BUSY ) == 1 )
        return TRUE;                // return true
    else
        return FALSE;               // else retrun false
}
```

---

## 7. IO\_Write

---

```
void SMBus::IO_Write(WORD dwOffset, BYTE dwData)
{
    // Set dwData value to assigned address
    SetPortVal(this->m_MapIOAddress+dwOffset, dwData,1);
}
```

---

## 8. IO\_Read

---

```
BYTE SMBus::IO_Read(WORD dwOffset)
{
    DWORD dwAddrVal;

    // Get dwAddrVal value from assigned address
    GetPortVal(this->m_MapIOAddress+dwOffset,&dwAddrVal,1);
    return (BYTE)(dwAddrVal & 0xFF);
}
```

---

## 9. Define SMBus IO address

---

```
SMBus::SMBus()
{
    this->m_MapIOAddress = 0x500;
}
```

---

## 10. Define SMBus pin in SMBus.h

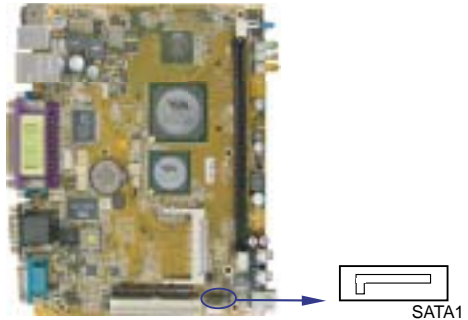
---

```
#define SMBHSTSTS                                0x00 // SMBus Host Status Register Offset
#define SMBHSTSTS_BUSY                          0x01 // SMBus Host -> 0000-0001 Busy
#define SMBHSTSTS_INTR                          0x02 // SMBus Host -> 0000-0010 Interrupt / completion
#define SMBHSTSTS_ERROR                         0x04 // SMBus Host -> 0000-0100 Error
#define SMBHSTSTS_COLLISION                     0x08 // SMBus Host -> 0000-1000 Collision
#define SMBHSTSTS_FAILED                        0x10 // SMBus Host -> 0001-0000 Failed
//-----
#define SMBHSTCNT                                0x02 // SMBus Host Contorl Register Offset
#define SMBHSTCNT_KILL                          0x02 // SMBus Host Contorl -> 0000 0010 Kill
#define SMBHSTCNT_QUICK                         0x00 // SMBus Host Contorl -> 0000 0000 quick (default)
#define SMBHSTCNT_SENDRECV                     0x04 // SMBus Host Contorl -> 0000 0100 Byte
#define SMBHSTCNT_BYTE                          0x08 // SMBus Host Contorl -> 0000 1000 Byte Data
#define SMBHSTCNT_WORD                         0x0c // SMBus Host Contorl -> 0000 1100 Word Data
#define SMBHSTCNT_BLOCK                         0x14 // SMBus Host Contorl -> 0001 0100 Block
#define SMBHSTCNT_START                        0x40 // SMBus Host Contorl -> 0100 0000 Start
//-----
#define SMBHSTCMD                                0x03 // SMBus Host Command Register Offset
#define SMBHSTADD                                0x04 // SMBus Host Address Register Offset
#define SMBHSTDAT0                              0x05 // SMBus Host Data0 Register Offset
#define SMBHSTDAT1                              0x06 // SMBus Host Data1 Register Offset
#define SMBBLKDAT                                0x07 // SMBus Host Block Data Register Offset
//-----
// SMBus Bus Status Code
//-----
#define SMBUS_OK                                0x0 // SMBUS OK
#define SMBUS_BUSY                              0x1 // SMBUS BUSY
#define SMBUS_INT                                0x2 // SMBUS INTR
#define SMBUS_ERROR                              0x4 // SMBUS ERROR
//-----
#define SMBUS_TIMEOUT                            100
```

### 3-19 Serial ATA

- SATA1: S-ATA IDE 7pin Wafer

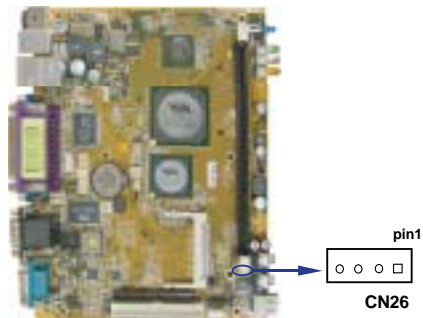
PIN NO.	Description
1	GND
2	DATA TX+
3	DATA TX-
4	GND
5	DATA RX-
6	DATA RX+
7	GND



### 3-20 I<sup>2</sup>C Bus Connector

- CN26: I<sup>2</sup>C Bus connector 4pin (1.25mm Wafer connector)

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



### 3-21 TV-OUT S-VIDEO Connector

- CN41 : TV-OUT S-VIDEO (4pin 1.25mm Wafer)

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



# 3-22 Touch screen device

## CN47: Touch screen device Header 10 pin(2.0mm pin Header)

• For 8- wire type pin define

PIN NO.	Description	PIN NO.	Description
1	Bottom	2	Bottom Sense
3	Top Sense	4	Top
5	Right	6	Right Sense
7	Left	8	Left Sense
9	GND	10	KEY

Note: For eight wire type the cable Pin 3 and Pin4 need short .

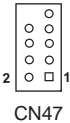
• For 4- wire type pin define

PIN NO.	Description	PIN NO.	Description
1	Bottom	2	N/A
3	N/A	4	Top
5	Right	6	N/A
7	Left	8	N/A
9	GND	10	KEY

Note: For four wire type the cable Pin 3 and Pin4 need short .

• For 5- wire type pin define

PIN NO.	Description	PIN NO.	Description
1	UR(H)	2	N/A
3	Sense	4	UL(Y)
5	LR(X)	6	N/A
7	LL(L)	8	N/A
9	GND	10	KEY



---

## 3-23 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**

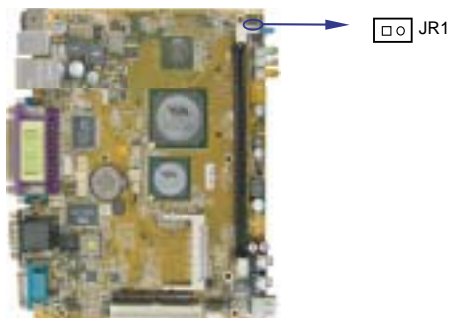
The Power LED is lit while the system power is on.

- **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 complete 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	
<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><li>▶ PC Health Status</li></ul>	<ul style="list-style-type: none"><li>▶ Frequency/Voltage Control<ul style="list-style-type: none"><li>Load Fail-Safe Defaults</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></li></ul>
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 ]	Menu Level >  Change the day, moth, year and century
▶ IDE Channel 0 Slave	[ None ]	
▶ IDE Channel 1 Master	[ None ]	
▶ IDE Channel 1 Slave	[ None ]	
▶ IDE Channel 2 Master	[ None ]	
▶ 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

<div>►Hard Disk Boot Priority [Press Enter] Virus Warning [Disabled] CPU L1 &amp; L2 Cache [Enabled] CPU L2 Cache ECC Checking [Enabled]  Quick Power On Self Test [Enabled] First Boot Device [USB-FDD] Second Boot Device [HDD-0] Third Boot Device [CDROM] Boot Other Device [Enabled] Boot Up NumLock Status [On] Typematic Rate Setting [Disabled] X Typematic Rate (Chars/Sec) [6] X Typematic Delay (Msec) [250] Security Option [Setup] OS Select For DRAM &gt; 64MB [Non - OS2]  Video BIOS Shadow [Enabled]  Full Screen LOGO Show [Enabled] Small Logo (EPA) Show [Disabled]</div>	<div>Item Help</div> <div>Menu Level &gt;</div> <div>Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep</div>
<div>:Move Enter:Select +/- /PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults</div>	

### 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 attempts 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]	Item Help
▶ AGP & P2P Bridge Control	[Press Enter]	
Memory Hole	[Disabled]	Menu Level >>
System BIOS Cacheable	[Enabled]	
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	Item Help
Current DRAM Frequency	266 MHz	
DRAM Clock	[by SPD]	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		

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

Phoenix- AwardBIOS CMOS Setup Utility  
AGP & P2P Bridge Control

VGA Share Memory Size	[64M]	Item Help
Direct Frame Buffer	[Enabled]	
Select Display Device	[CRT]	
Panel Type	[1024x768,18 bits,1C]	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		

Note : 1. Select Display Device And Panel Type Item for CV766C Only!

# 4-7 Integrated Peripherals

Phoenix- AwardBIOS CMOS Setup Utility  
Integrated Peripherals

▶ VIA OnChip IDE Device	[Press Enter]	Item Help
▶ VIA OnChip PCI Device	[Press Enter]	
▶ SuperIO Device	[Press Enter]	
Onboard Serial Port 3	[3E8]	
Serial Port 3 Use IRQ	[IRQ5]	
Onboard Serial Port 4	[2E8]	Menu Level >>
Serial Port 4 Use IRQ	[IRQ10]	
PCI Sharing Mode Select	[Disabled]	
UART URQ Sharing select	[Disabled]	
:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

## 4-7-1 VIA OnChip IDE Device

Phoenix-AwardBIOS CMOS Setup Utility

VIA OnChip IDE Device

OnChip SATA	[Enabled]	Item Help	
SATA Mode	IDE		
IDE DMA transfer access	[Enabled]	Menu Level >>  If your IDE hard drive supports block mode select Enable for automatic detection of the optimal number of block read/writes per sector the drive can support	
OnChip IDE Channel0	[Enabled]		
OnChip IDE Channel1	[Enabled]		
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 OnChip IDE Device

VIA-3058 AC97 Audio	[Auto]	Item Help
OnChip USB Controller	[All Enabled]	
OnChip EHCI Controller	[Enabled]	Menu Level >>
USB Emulation	[ON]	
x USB Keyboard Support	Enabled	
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]	
Parallel Port Mode	[SPP]	
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	[U/H SYNC+Blank]	
MODEM Use IRQ	[NA]	
Soft-Off by PWRBTN	[Instant-Off]	
Ac Loss Auto Restart	[Former-SNs]	
▶ IRQ/Event Activity Detect	[Press Enter]	

F1+::Move Enter:Select +/- /PU/PD:Value F10:Save EEC: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		
UGA	[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]	
× Date (of Month)	[ 0 ]	
× Resume Time (hh:mm:ss)	0 : 0 : 0	
▶ IRQs Activity Monitoring	[Press Enter]	
F1: 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 section 4-8-1.1

#### 4-8-1.1 IRQs Activity Monitoring

Phoenix - AwardBIOS CMOS Setup Utility		
IRQs Activity Monitoring		
Primary INT#	[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]	
F1: Move Enter: Select   +/-/PU/PD: Value   F10: Save   ESC: Exit   F1: General Help		
F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults		

### 3-17 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

### 3-18 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

## 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.



### 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	39C/ 102F	Item Help
Current System Temp	46C/ 114F	
Current Fan 1 Speed	0 RPM	Menu Level ▶
Current Fan 2 Speed	0 RPM	
+12V	12.196 V	
+5V	5.685 V	
3.3V	3.277 V	
CPU Vcore	0.901 V	
Internal Vcc	3.201 V	
F1: Move Enter: Select +/- /PU/PB: Value F10: Save EEC: 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





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## 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.

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## 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).

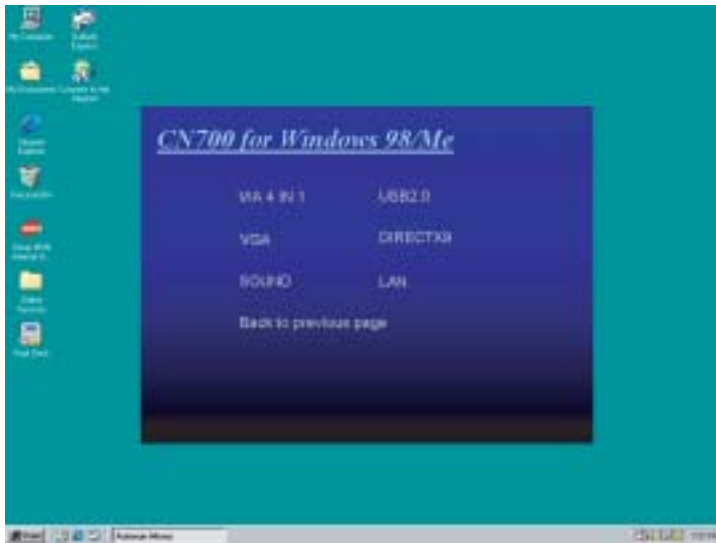


**From MAGIC INSTALL MENU you may make 3 selections:**

- 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 DIRECTLY TO HARDWARE, PROVIDING FAST GRAPHIC ACCESS.
- INF :** VIA REGISTRY DRIVER IS TO BE INSTALLED UNDER WINDOWS. THE DRIVER WILL ENABLE VIA POWER MANAGEMENT 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.**



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## 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 "continue Anyway".



4. Click FINISH to Restart Computer.

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

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## 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.

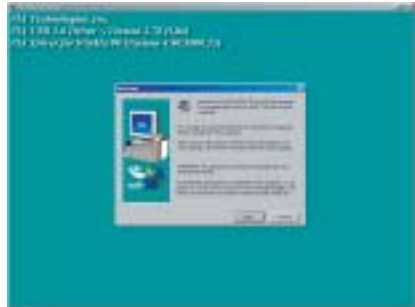
NOTE: The path of the file  
For WIN98/ME/2K/XP  
X:\driver\vial\audio\setup.exe

---

## 5-4 USB2.0 install VIA USB2.0 Installing driver

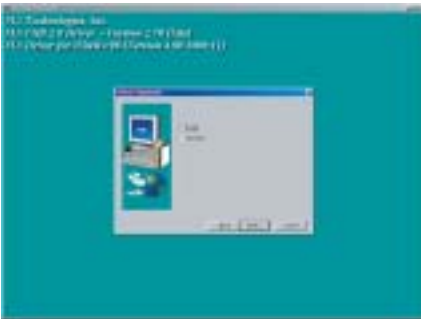


1. Click USB2.0 when System Install MENU appears.

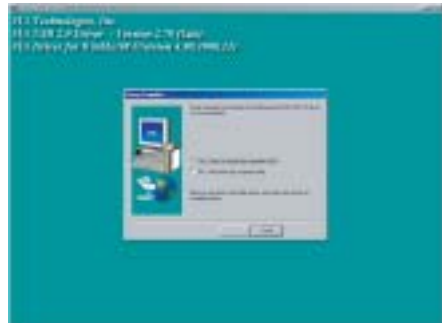


2. Click NEXT install USB2.0 Driver

**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\vialCN700\USB20\setup.exe



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## 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 CV700C from our web site to your boot disc.

STEP 4. Insert your boot disc into A:

Start the computer and type "Awdflash A:\CV700Cxxx.BIN/SN/PY/CC/R"  
CV700Cxxx.BIN is the file name of the latest BIOS. It may be CV700CA1.BIN or CV700CA2.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.

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## 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	0.09A	2.53A	1.49A	2.02A	1.87A
Slim Type HDD	0.09A	1.58A	1.12A	1.69A	1.51A

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 )