CV860B

133MHz FSB / VGA / LAN / Sound

133MHz FSB . All-in-one .
Sound . 2 LAN
ATA 33/66/100 . DOC . USB . TV-OUT . IrDA . CF
. Multimedia Board .

NO.CV860B

Release date: Fed.25.2003

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Chapter-1

General Information

The CV860B 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 POS system and multimedia applications. The board is designed with 133 MHz internal bus clock rate architecture.

The CV860B All-In-One motherboard uses VIA PLE133(VT8601A and VT82C686B) chipset, built-in VIA Eden/ C3 EBGA CPU, VGA and Audio feature onboard and supports , built-in multi-LAN options (3* Realtek / 2*Intel+1*Intel Giga). 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 access of mode 4 to IDE drive interface architecture, the IDE interface supports maximum 100 MB/sec data transfer rate to 2 pieces of IDE drive 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. You can also use the DOS version of the "DiskOnChip   " socket which supports from 8MB up to 576MB by issuing commands from the DOS prompt without using other software

CV860B board is designed with VT8601A intergrated graphic VGA controller which provides connection to VGA Monitor .
VGA Controller is 64-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 CV860B Board supports SDRAM memory with one DIMM socket up to 512MB.

1-1 Major Feature

1. VIA Eden EBGA 400/533/667MHz low power CPU/ VIA C3 EBGA 733/800 MHz CPU

2. VIA PLE133 chipset (VT8601A + VT82C686B)

3. One PC 133/100 SDRAM DIMM socket up to 512MB

4. Dual channel master mode PCI support four IDE disk drives DMA 33/66/100 controller

5. 100/133MHz system clock support

6. Versatile storage device:

   * One 50-pin Compact Flash socket
   * One 32-pin DOC socket
   * One 40-pin DOM
   * One 44-pin DOM
   * One 2.5" HDD

7. On board VT8601A graphic controller integrated Trident graphics

8. On board option*:

   * CV860B-1R80T ----1* Realtek 8100B 10/100B-T and CPU 800MHz with TV-out
   * CV860B-1R40T ----1* Realtek 8100B 10/100B-T and CPU 400MHz with TV-out
   * CV860B-1R40 ----1* Realtek 8100B 10/100B-T and CPU 400MHz without TV
   * CV860B-2R40 ----2* Realtek 8100B 10/100B-T and CPU 400MHz without TV

9. DiskOnChip memory size 8MB up to 576MB

10. Compact Flash Reader Type I/II for IDE/ATA interface

11. One serial RS232 Ports

12. Two enhanced bi-directional parallel ports (SPP/ECP/EPP)

13. On board mini PS/2 Keyboard/Mouse connector

14. On board Sound ALC 201A, AC97 2.1

15. TV-out for NTSC and PAL

16. DC 12V-IN Power Adapter support

*The models mentioned above are standard models currently.

The On-board option might change due to customization.

1-2 Specification

1. CPU: VIA C3 EBGA 400/533/ 667 MHz low power CPU / VIA C3 EBGA 733/800 MHz CPU

2. Cache Memory: Intergrated full-speed 192KB L1/L2 cache

3. Chipset: VIA PLE133 (North:VT8601A ;South:VT82C686B)

4. Memory: One DIMM socket up to 512MB SDRAM

5. VGA: VT8601A integrated graphic controller ; support 64-bit 2D/3D display up to
    1600x1200, memory sharable up to 8MB

6. I/O Chipset: VIA VT82C686B

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

8. LAN: Realtek 8100B

9. TV-out: Support NTSC / PAL function

10. Storage devices: * One 50-pin Compact Flash socket
                       * One 32-pin DOC socket
                       * One 40-pin DOM
                       * One 44-pin DOM
                       * One 2.5" HDD

11. DiskOnChip: 32-pin socket for DiskOnChip DOC2000 ; memory size from 8MB to 576MB

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

13. Serial Port: One serial ports ; Support RS-232

14. IR: One IrDA TX/RX header

15. USB: Support four USB ports

16. Keyboard: PS/2 6-pin Mini Din

17. Mouse: PS/2 6-pin Mini Din

18. Sound: AC97 2.1 Sound, full-duplex

19. BIOS: Award BIOS version 6.1

20. Form Factor: LIGHT Board, 200x150mm

21. Power: DC12V-IN power Adapter input

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

1-3 Packing List*

1   CV860B Board

2   DC 12V Power Adapter

3   One Slim IDE Port Flat Cable (2.0mm)

4   TV Cable

5   Power Cable

6   Utility CD Disk

7   User's Manual

8   One ATA 100 Flat Cable (2.54mm)
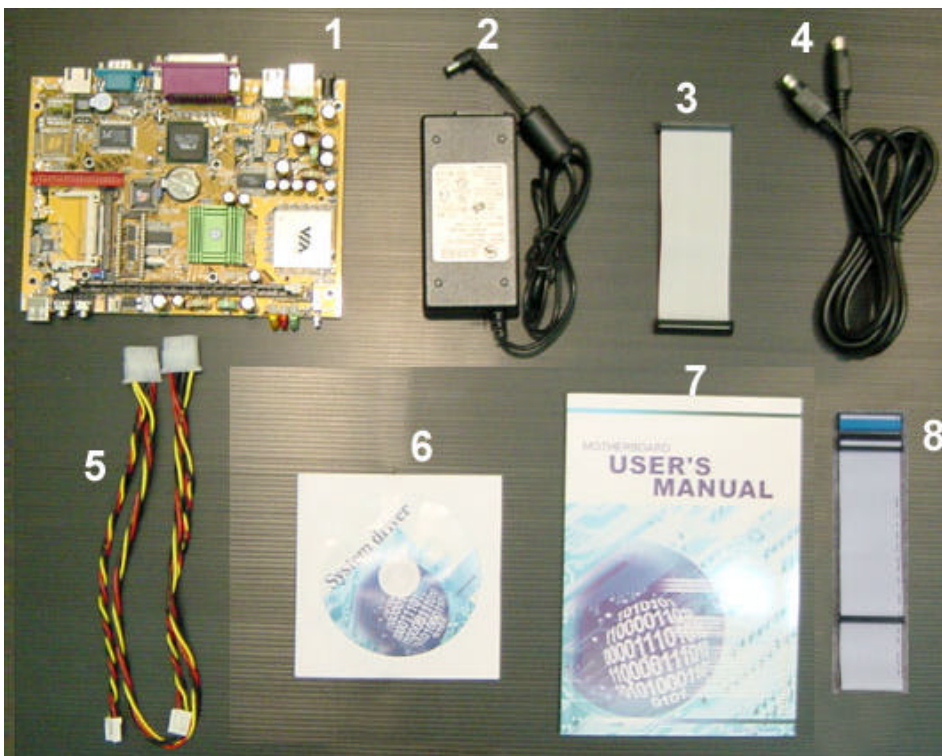
*The packing list above is for the users who purchase single motherboard. The users
 who purchase the board with chassis may refer to the packing list in the Assembly Guide.

**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.**

Hardware Installation

This chapter provides the information how to install the hardware of CV860B.

Please follow section 1.3, 2.1 and 2.2 to check the package and unpack carefully.

Please follow the jumper setting procedure.

2-1 Unpacking Precaution

The CV860B board has been well packed with an anti-static bag to protect its sensitive components and circuitry from the damage of static electric discharge.

Note: DO NOT TOUCH THE BOARD OR ANY OTHER SENSITIVE COMPONENTS
         WITHOUT ALL NECESSARY ANTI-STATIC PROTECTION.

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 CV860B.
   Well clip 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 CV860B
   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.

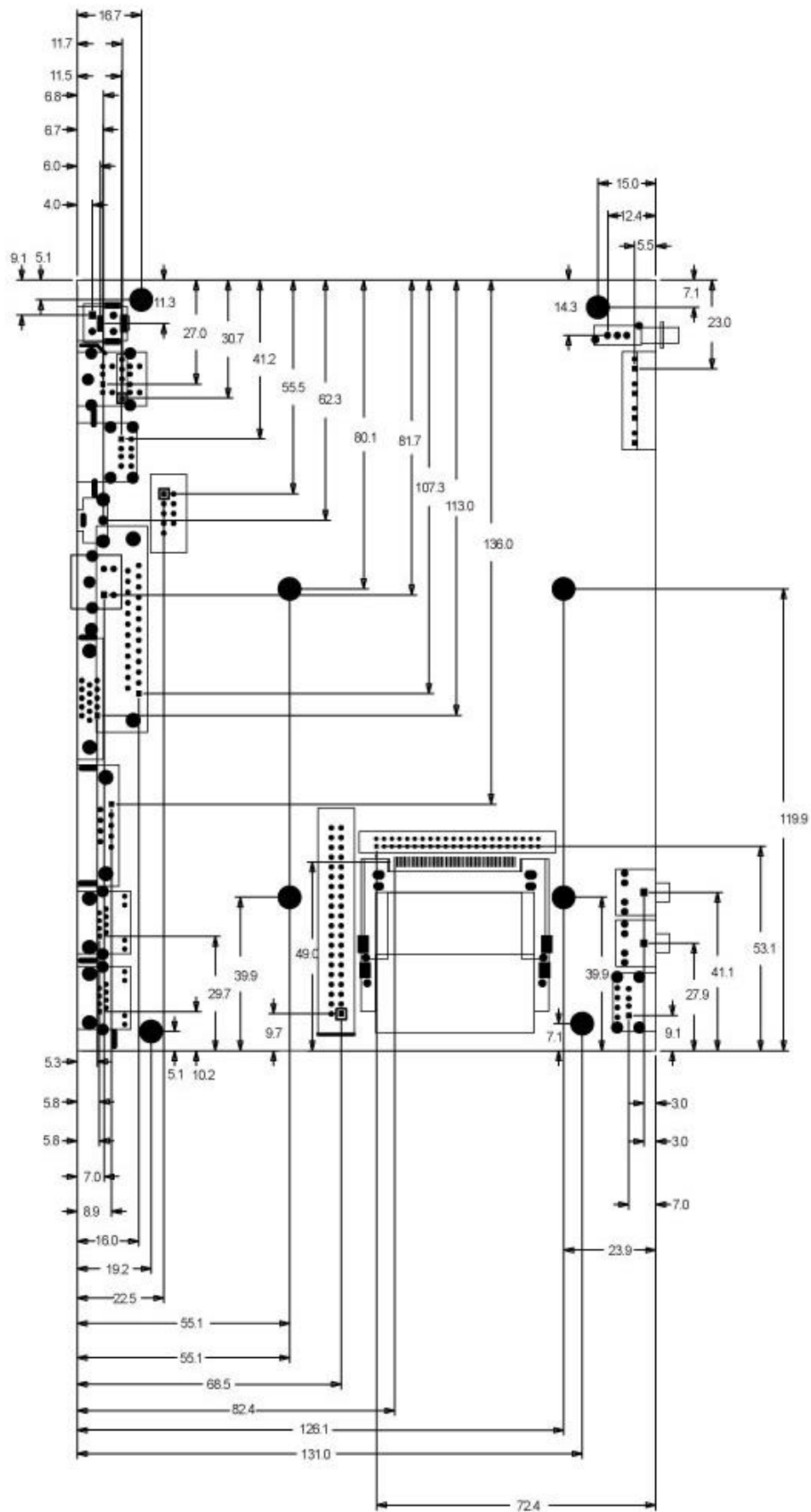3. Do not plug any connector or set any jumper when the power is on.

2-2 Unpacking checkup

First of all, please follow all necessary steps of section 2.1 to protect CV860B
from electricity discharge. With reference to section 1.3, please check the package
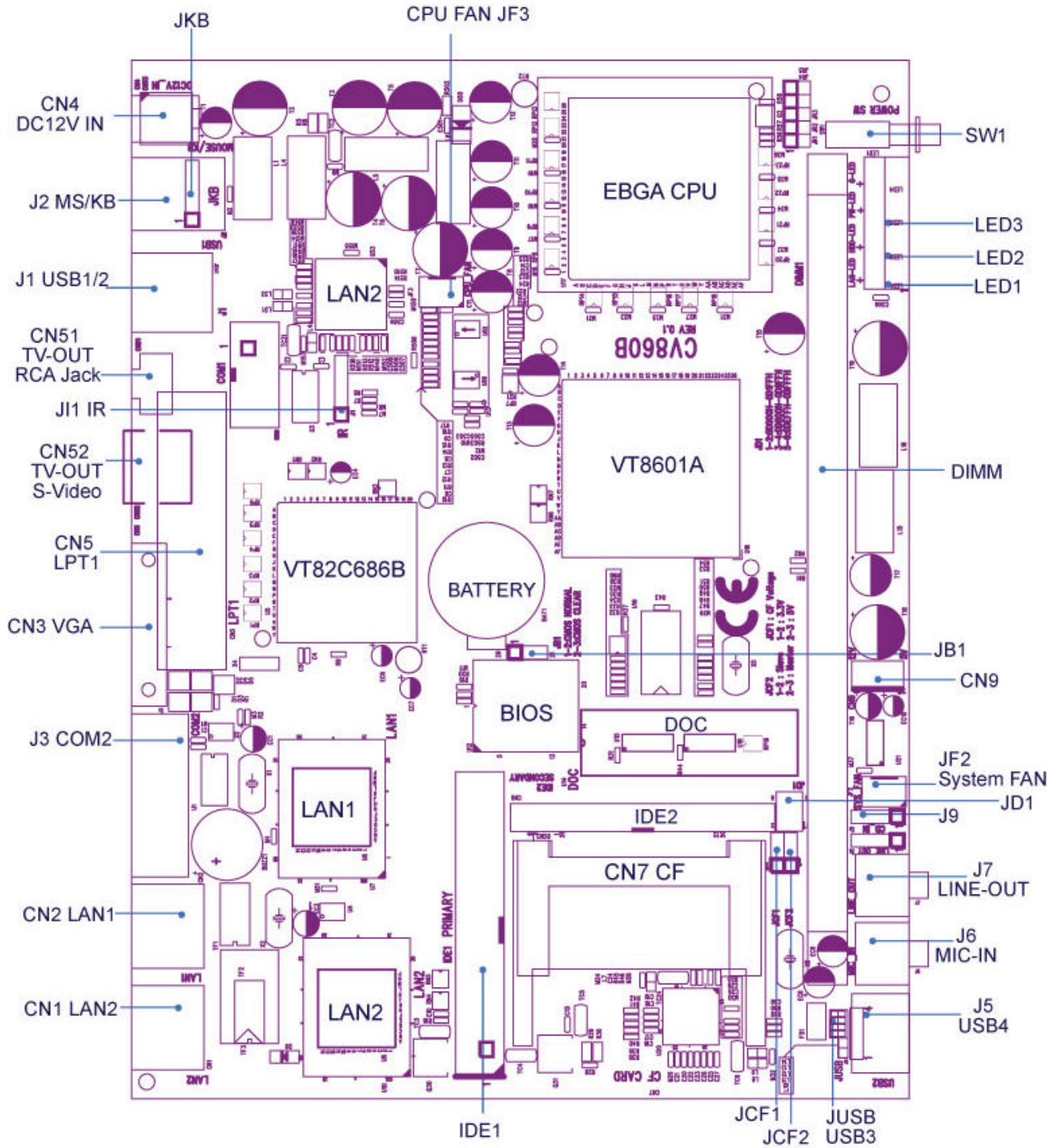again with following steps:

1. Unpack the CV860B board and keep well storage of all packing material, manual
     and   driver disc etc.

2. Is there any components lost or dropped from the board? DO NOT INSTALL IF
      HAPPENED.

3. Is there any visible damage on the board? DO NOT INSTALL IF HAPPENED.

4. Well check your optional parts (i.e. SRAM, DOC 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. Well 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 your
       necessary re-installation if you change your Operating System.

2-4　Layout

8

2-5 Diagram

Board diagram labels:
- DC12V IN CN4
- J2 MS/KB
- J1 USB1/2 LAN2
- CN51 TV-OUT RCA Jack
- JI1
- VT82C686B
- CN5 LPT1
- CN3 VGA
- LAN1
- J3 COM2
- CN2 LAN1
- CN1 LAN3
- LAN2
- CPU FAN JF3
- EBGA CPU
- SW1
- LED3
- LED2
- LED1
- VT8601A
- DIMM
- JB1
- CN9
- BIOS
- DOC
- JF2 System FAN
- J9
- JD1
- J7 LINE-OUT
- J6 MIC-IN
- JUSB USB3
- J5 USB4
- LAN2
- IDE1
- IDE2
- CN7 CF
- JCF1
- JCF2

Back panel

- PS/2 Mouse
- PS/2 Keyboard
- DC 12V IN
- USB
- TV-OUT RAC Jack
- TV-OUT S-Video
- Parallel
- VGA
- COM2
- LAN1
- LAN2

Front panel

- LINE-OUT
- USB
- MIC-IN
- LAN LED
- PW LED
- HDD LED
- Power Switch
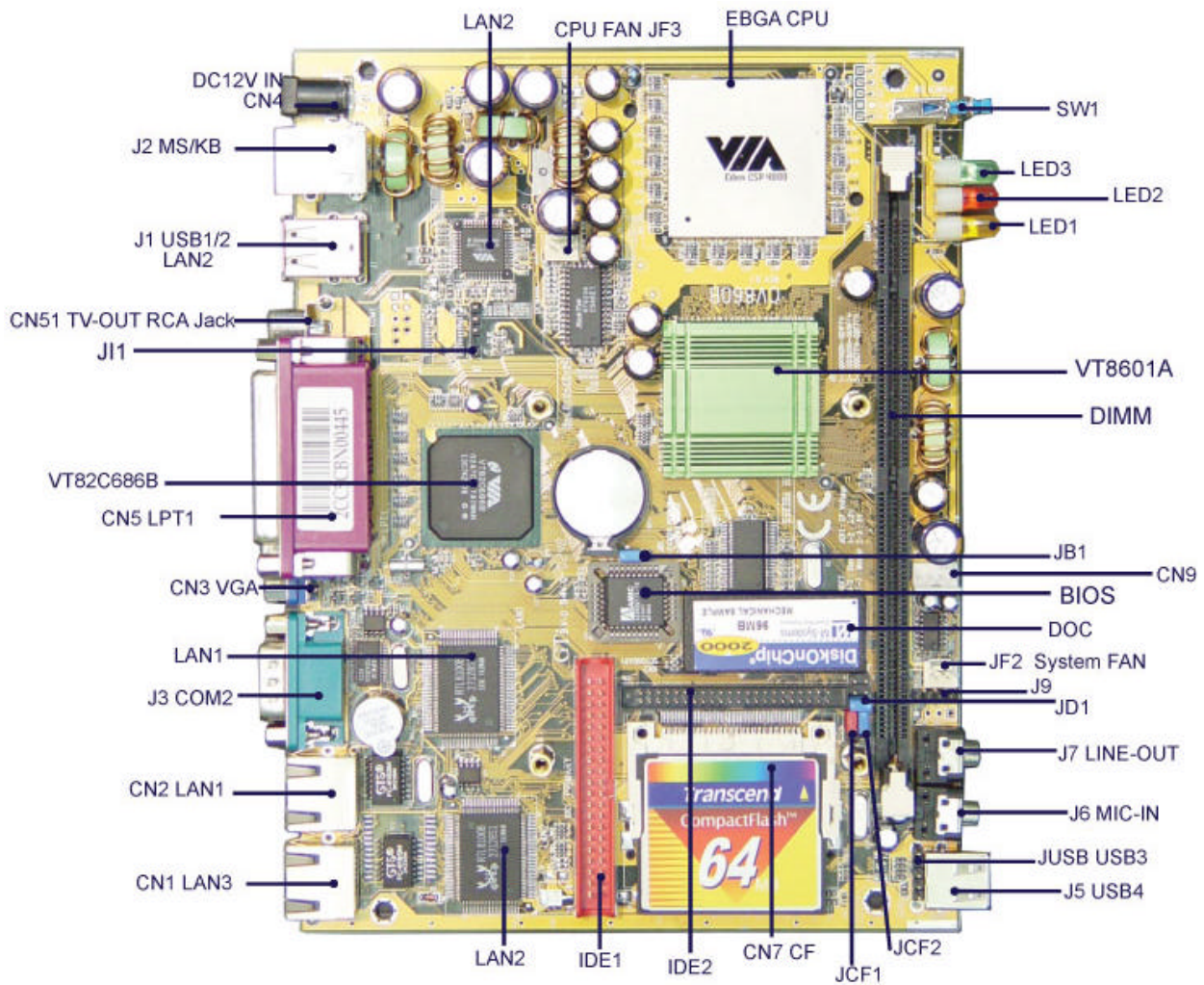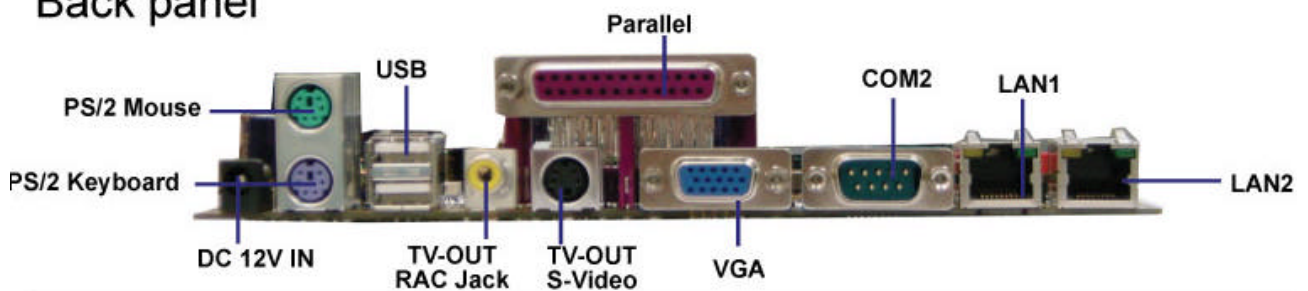
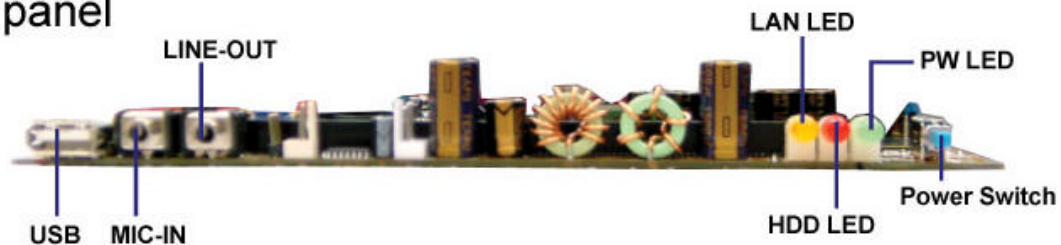**2-6 Install Memory**

This motherboard provides one 168-pin DUAL INLINE MEMORY MODULES (DIMM)
socket for memory expansion available from minimum memory size over 32MB to
maximum memory size of 512MB SDRAM.
The Board supports DRAM type of 8 / 16 / 32 MB XN

Valid Memory Configurations

DIMM1	System Accept or Not	Total Memory Min.~Max.
DS/SS	Accept	32MB~512MB

DS: Double Sided DIMM   SS: Single Sided DIMM

NOTE!

Make sure the total installed memory does not exceed 512MB;

otherwise, the system may hang during startup.
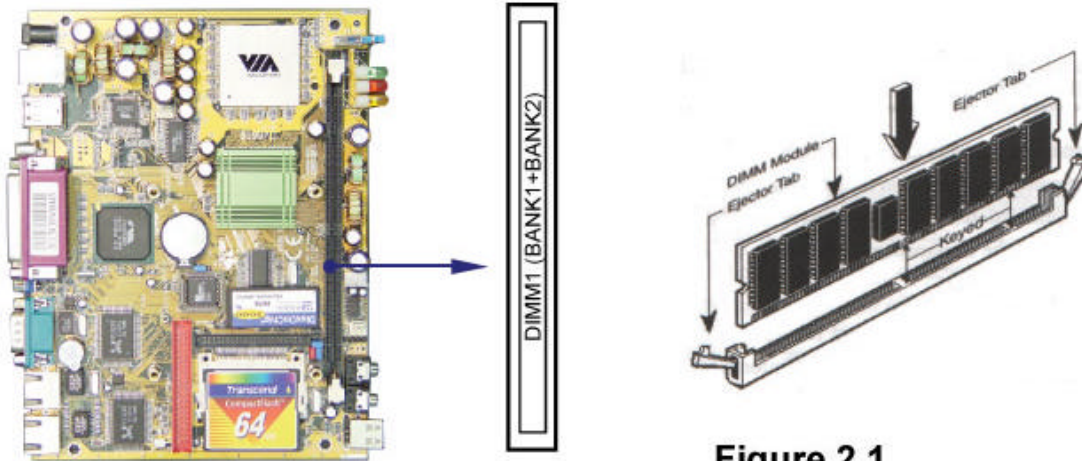

Install SDRAM module oriented as Fig. 2.1.

Figure 2.1

2-7 List of Jumpers

JB1: CMOS DATA SET

JCF1: CF Card Voltage select

JCF2: CF Card Marster/Slave select

JD1: DiskOnChip address select

2-8 Jumper Setting Description

A jumper is ON as a short 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 used in this manual.
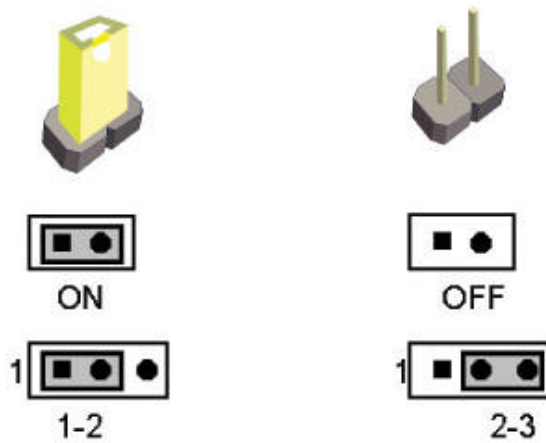
Figure 2.2

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 indicated 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 short 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
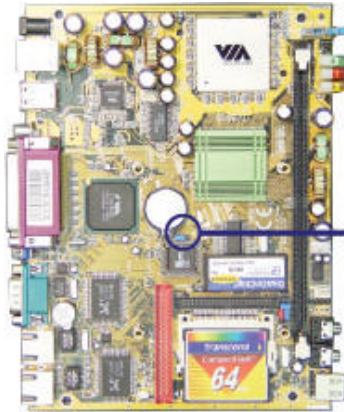
JB1

*Normal   Clear Setting

2-10 JCF1 CF Card Voltage select

If you use CF card and HDD together, we suggest you

use the jumper setup for +5V.

JCF1	Description
1-2	CF Card use 3.3 Voltage
*2-3	*CF Card use +5V Voltage
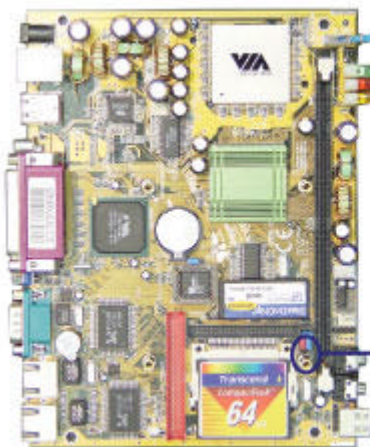
JCF1

3.3V   +5V*

2-11 JCF2 CF Card Master/Slave select

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

JCF2	Description
1-2	CF Card use Salve type
*2-3	*CF Card use Master type
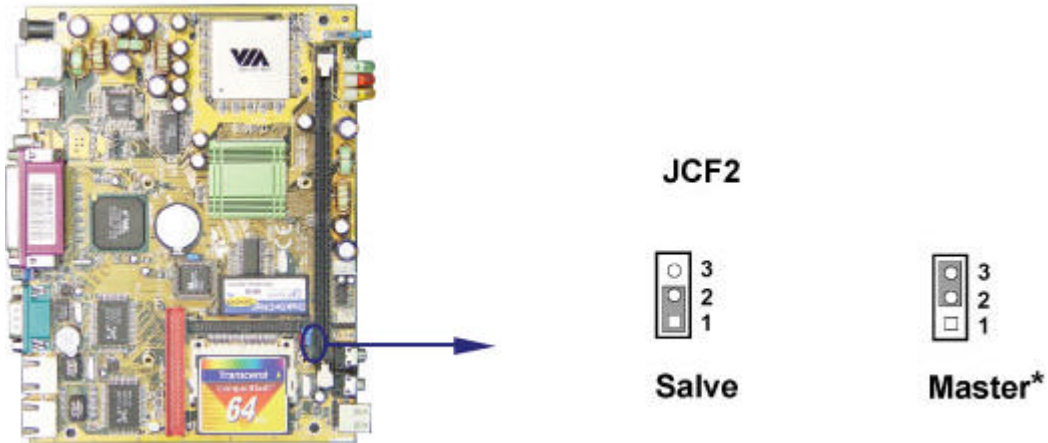
2-12 DiskOnChip™ Address Setting

The CV860B provides a socket to install the DiskOnChip module.

DOC 32-pin dip socket can support flash disk up to 576MB

There are three DOC address setting options:

D000-D1FFh ,D800-D9FFh,DC00h-DDFFh,DE00-DFFFh.

A JD1 may select the starting memory address of the DiskOnChip (D.O.C.) to avoid the mapping area with any other memory device. If you have other memory device in the system, please set both at different memory address mapping.

JD1	Description
*1-2	* D000h-D1FFh
3-4	D800h-D9FFh
5-6	DE00h-DFFFh
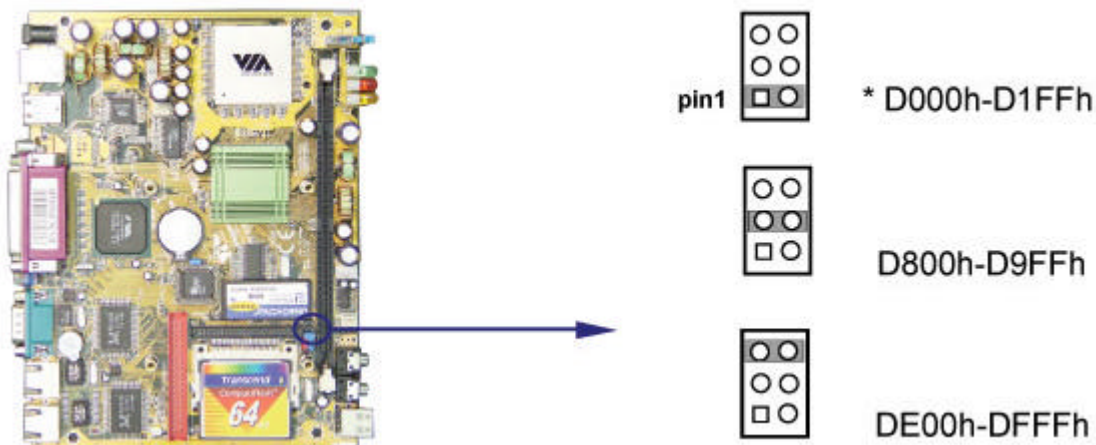
The D.O.C. function allows the system to operate without FDD or HDD. The D.O.C. may be format as driver C: or driver A:. User may also use the DOS commands such as FORMAT, SYS, COPY, XCOPY, DISCOPY and DISKCOMP etc. This means that the D.O.C. may be used as driver-A if the system works without FDD-A for ambient application.

Please contact with your supplier for different size of D.O.C. module. You can find the latest information on www.m-sys.com .

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

CN4: DC 12V in power Jack

CN9: DC output for +5/+12V Connector

J2 : Dual PS2 6-pin Mini Din Keyboard and Mouse Jack

JKB: External Keyboard Connector

J1 : USB 1/2

CN51: TV-out RCA Jack

CN52: TV-out S-Video

CN5: Parallel Port 1 DB25 Connector

CN3: VGA DB15 Connector

J3 : COM2 DB9 Connector

CN2: RJ45 LAN1 Jack

CN1: RJ45 LAN2 Jack

IDE1: IDE1 2x20 Pin(2.54mm) Connector

CN6: IDE2 2x22 Pin (2.0mm) Connector

CN7: CF Card 50-pin Socket

U14: DiskOnChip Socket

JI1: IR Connector

J5 : USB 4 Port Jack

JUSB: USB 3 Port Connector

J6 : MIC-IN Jack

J5 : LINE - OUT Jack

J9 : CD Audio In Jack

JF2: System FAN connector

LED1 : LAN Active LED

LED2 : HDD Active LED

LED3 : Power Active LED

SW1 : Power on switch

JF3: CPU FAN Connector

3-2 FAN Connector

CV860B provides one CPU fan connector and one system fan connector.

CPU Fan Connector- JF3

System FAN Connector-JF2

PIN NO.	Description
1	FAN Control ON/OFF
2	+12v
3	FAN speed sensor
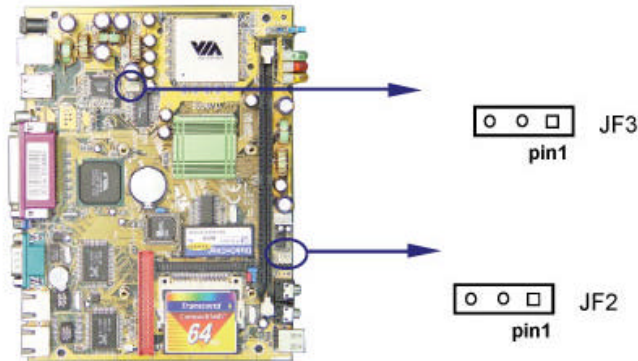
3-3 IDE Connectors

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)-IDE1(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	IRQ14/15	32	NC
33	SA 1	34	ATA 33/66/100 CABLE SELECT
35	SA 0	36	SA 2
37	HD CSO#	38	HD CS1#
39	HD LED	40	GROUND

Note: Pin20 supplies +5V power, which can support new type DOM module.

17

44 pins(2.0mm)-CN2 (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	NC
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 CSO#	38	HD CS1#
39	HD LED	40	GROUND
41	+5V	42	+5V
43	GROUND	44	NC
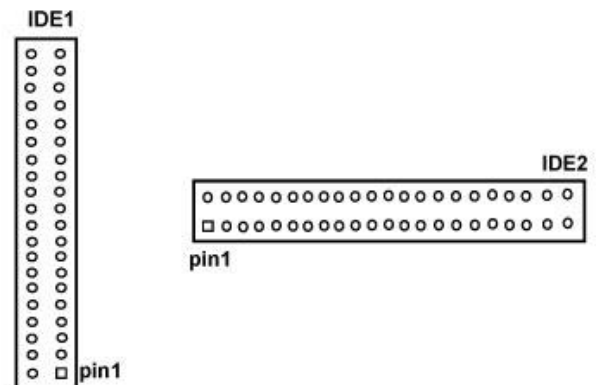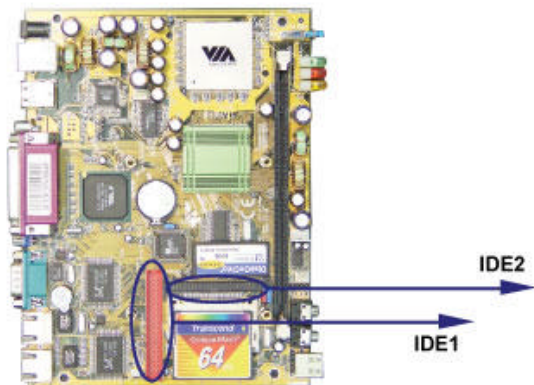
3-4 Compact - Flash Memory Socket

CV860B 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----CN7

PIN NO.	Description	PIN NO.	Description
1	GND	26	-CD1
2	DATA3	27	DATA11
3	DATA4	28	DATA12
4	DATA5	29	DATA13
5	DATA6	30	DATA14
6	DATA7	31	DATA15
7	-CSO	32	-CS1
8	NC	33	-VS1
9	-ATA SEL	34	-IORD
10	NC	35	-IOWR
11	NC	36	OBTPH1
12	NC	37	INTRQ
13	VCC	38	VCC
14	NC	39	Marst/Slave
15	NC	40	NC
16	NC	41	-RESET
17	NC	42	IORDY
18	A02	43	NC
19	A01	44	OBTPH2
20	A00	45	-DASP
21	DATA0	46	-PDIAG
22	DATA01	47	DATA08
23	DATA02	48	DATA09
24	NC	49	DATA10
25	-CD2	50	GND
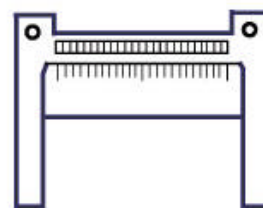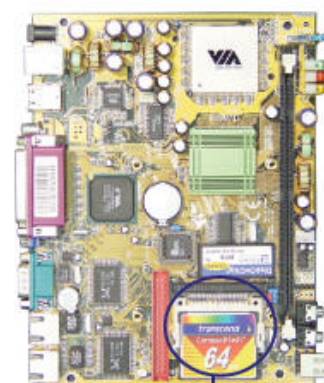
CN7

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)

. CN5: Parallel Port Connector ---CN5 D-SUB 25 PIN

CN5
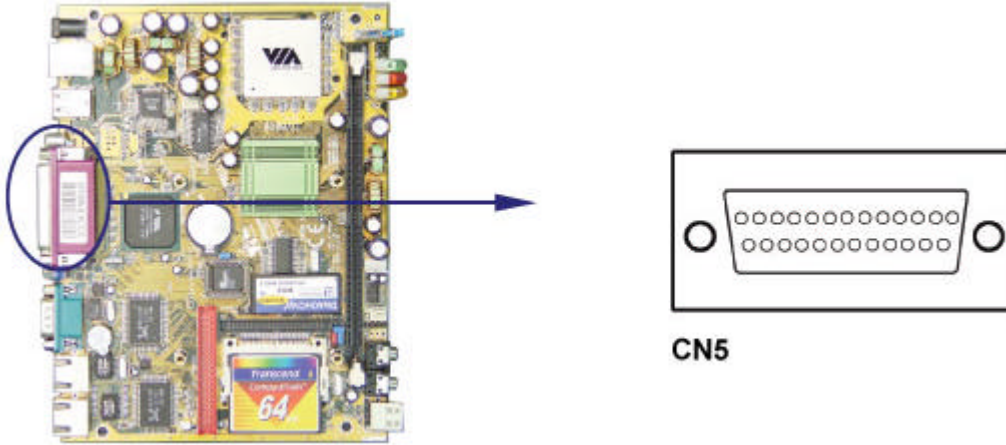
3-6 Serial Port Connector

The CV860B board offers one high speed NSI6C550 compatible UARTS with Read/
Receive 16 byte FIFO serial port (com2) . The serial port is a DB-9 external connector.
The On-board serial port can be disabled through BIOS SETUP (see Chapter 4).

. COM2 Connector-J3 D-SUB9-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		
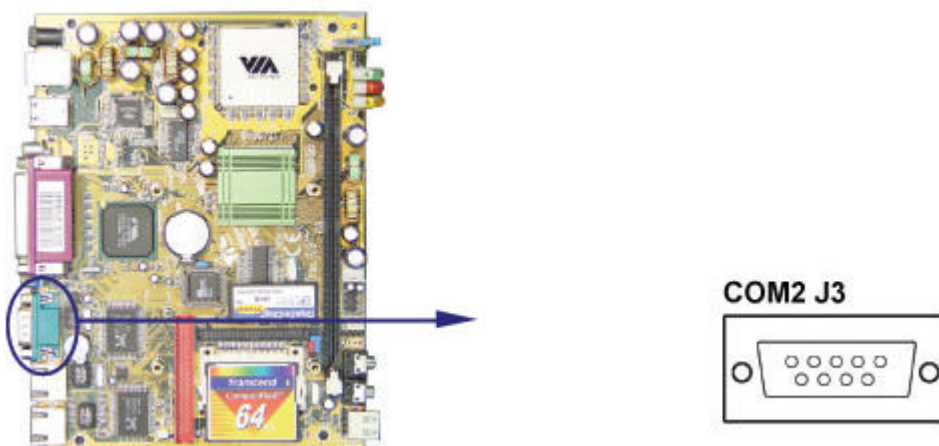
3-7 Keyboard and Mouse Connector

The CV860B lets users use PS/2 mouse and PS/2 keyboard through external 6-pin mini din connectors. Besides, there is one external keyboard connector. Please note that only one keyboard and one mouse can be connected at one time.

. **PS2 Keyboard-J2, 6-Pin mini din (down side)**

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

J2

PS/2 Mouse
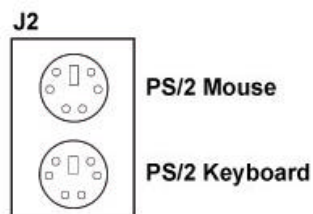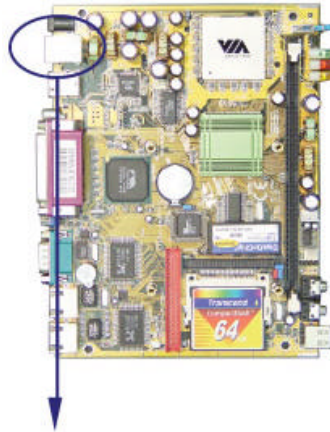
PS/2 Keyboard

. **External Keyboard Connector-JKB, 5pin(2.54mm)**

PIN NO.	Description
1	KB DATA
2	KEY
3	GND
4	+5V
5	KB CLOCK

. **PS2 Mouse -J2, 6pin mini din(Up Side)**

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

3-8 USB Port/ Header

The CV860B provides three external 4-pin Jacks for USB-1/2 and USB-4 as well as one 5-pin header for USB-3. Please refer to the following default pin assignment.

. USB 1/2 Port Connector-J1

PIN NO.	Description	PIN NO.	Description
1	+5V	1	+5V
2	USB DATA0-	2	USB DATA1-
3	USB DATA0+	3	USB DATA1+
4	GND	4	GND

. USB 4 Port Connector-J5

PIN NO.	Description
1	+5V
2	USB DATA3-
3	USB DATA3+
4	GND

. USB 3 Header-JUSB

PIN NO.	Description
1	+5V
2	USB DATA2-
3	USB DATA2+
4	Key
5	GND

J5 USB4

J1 USB1/2

pin1

JUSB USB3
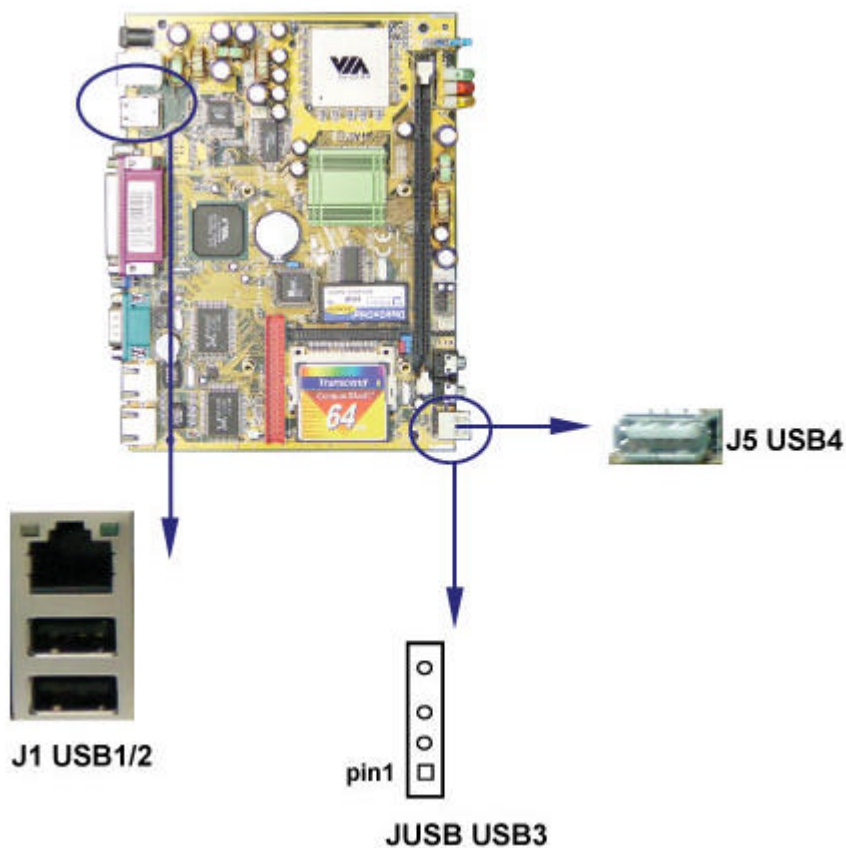
3-9 IR Connector

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)

.   IR Connector -JI1 5-pin(2.54mm)

PIN NO.	Description
1	+5V
2	KEY
3	IRRX
4	GND
5	IRTX
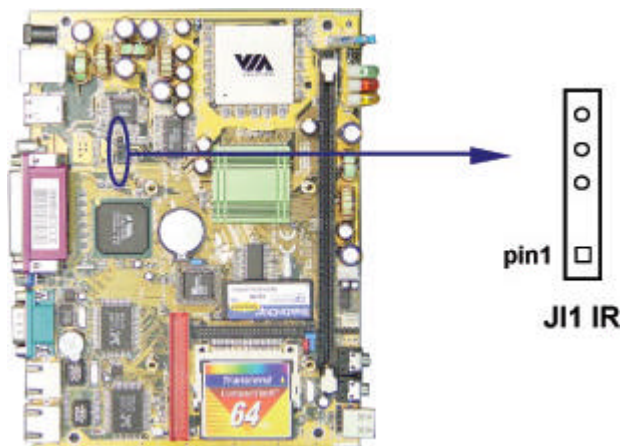
3-10 VGA Connector

The CV860B provides one D-type 15-pin connector for the CRT VGA monitor.

.   VGA DB15 Connector: CN3 DB15-pin

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-SYNG
4	NC	9	NC	14	V-SYNG
5	GND	10	GND	15	DDC CLOCK
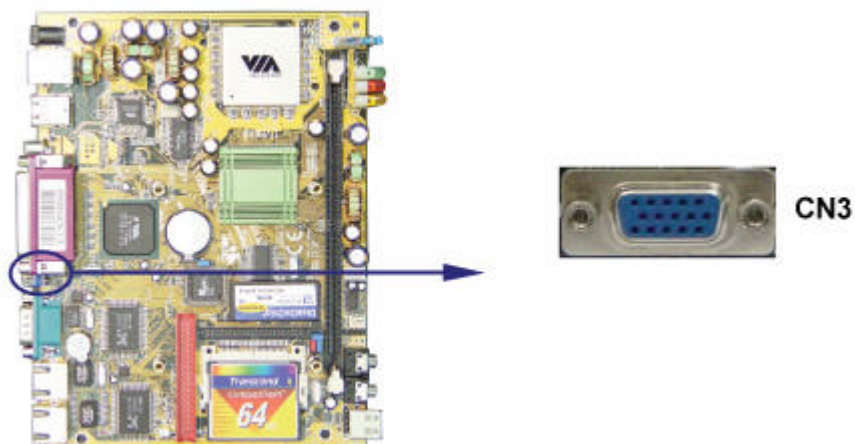
3-11 TV-OUT Connector

This connector is for on-board TV-OUT connection. If you install any external TV, you can select NTSC or PAL in BIOS SETUP menu.

. TV-OUT S-Video Connector: CN52

PIN NO.	Description
1	GND
2	GNG
3	Luminance
4	Chrominance

CN52
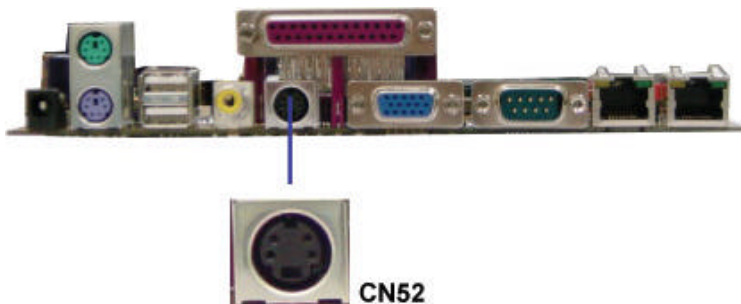
. TV-OUT RAC Jack Connector: CN51

PIN NO.	Description
1	Composife
2	GNG

CN51
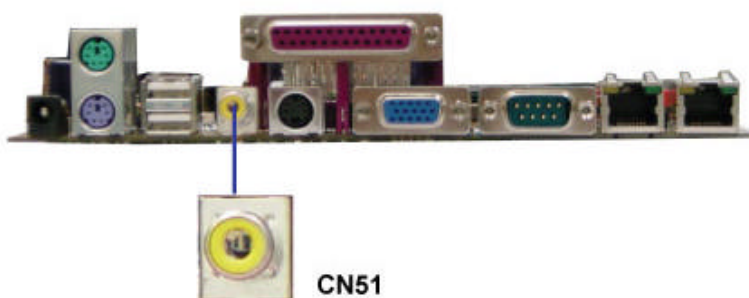
3-12 LAN Port

The Fast Ethernet controller provides 32-bit performance, PCI bus master capability, and full compliance with IEEE 802.3u 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 CN2/CN1 Connector.

Besides 10/100 Base-T, CV860B can provide Giga LAN solution through CN1 (LAN2), once equipped with Intel 82540EM chipset.

CV860B provides multi-LAN solution with various chip and spec.

Here is the list of possible combination:

CV860B-1R ---- One Realtek 8100B 10/100B-T

CV860B-2R ---- Two Realtek 8100B 10/100B-T

CN2 RJ45 JACK-----LAN1

CN1 RJ45 JACK-----LAN2

. RJ-45 10/100B-T JACK-CN2/ CN1

PIN NO.	Description	PIN NO.	Description
1	TX+	5	NC
2	TX-	6	RX-
3	RX+	7	NC
4	NC	8	NC

. RJ-45 10/100/1000B-T JACK-CN1

PIN NO.	Description	PIN NO.	Description
1	MID0+(TX+)	5	MID2-
2	MID0-(TX-)	6	MID1-(RX-)
3	MID1+(RX+)	7	MID3+
4	MID2-	8	MID3-
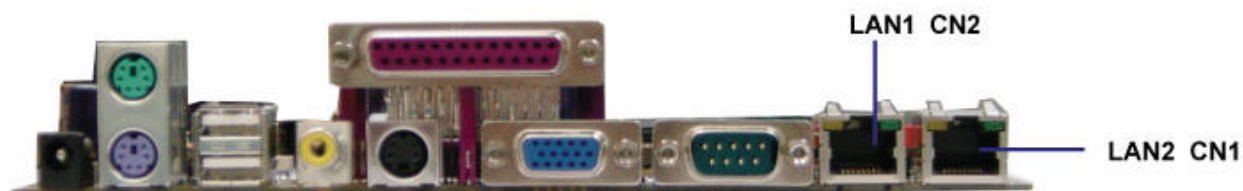
3-13 Audio Port Connector

The CV860B 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.

. J7 Jack-----LINE-OUT

PIN NO.	Description
1	GND
2	LINE-OUT-L
3	NC
4	NC
5	LINE-IN-R

LINE-OUT J7

MIC-IN J6

J6 Jack-----MIC-IN

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

J9 Connector-----CD Audio-in

PIN NO.	Description
1	CD-L
2	GND
3	GND
4	CD-R

J9

pin1
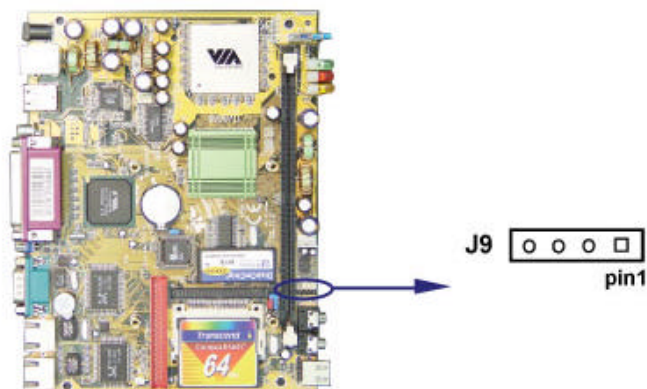
3-14 DC 12V IN and DC out

The CV860B uses single +12V power input and provides DC output header for devices.

When you plug the device's power cable into the power header, please note the orientation.

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

CN4
DC 12V IN
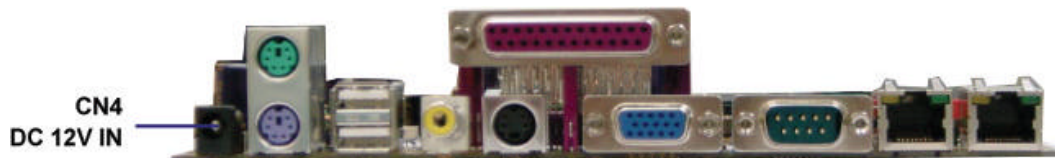
CN9 ---- DC OUT for 2.54 mm Power connector

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

CN9 pin1
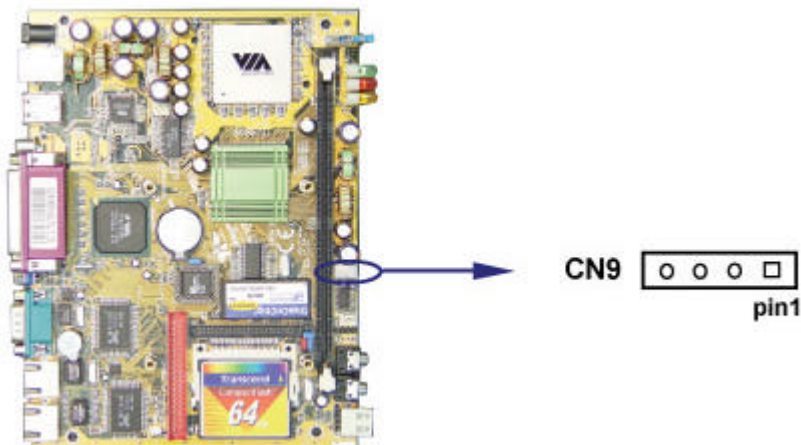
3-15 Front-Panel

1. Power switch: PW-ON--- SW1

   Based on case design , it 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.

2. Power LED: PW-LED ---LED3

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

3. IDE Activity LED: HDD-LED---LED2

   HDD-LED shows the activity of the hard disk.

4. LAN LED Activity LED: LAN-LED----LED1

   LAN 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 3-1, 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 turning it ON again. 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                        ↑ ↓ → ←   : 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)        Thu, Jan,  8 2002  |
  Time (hh:mm:ss)        13 : 45 : 03       |      Item Help
                                            |
  IDE Primary Master     Press Enter None   |
  IDE Primary Slave      Press Enter None   |  Menu Level  >
  IDE Secondary Master   Press Enter None   |
  IDE Secondary Slave    Press Enter None   |  Change the day, moth,
                                            |  year and century
  Video                  EGA/VGA            |
  Halt On                All Errors         |
                                            |
  Base Memory              640K             |
  Extended Memory          64512K           |
  Total Memory             65536            |
                                            |
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
 F5:Previous Values     F6:Optimized Defaults     F7:Standard Defaults
```

4-5 Advanced BIOS Features

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

 Virus Warning               [Disabled]
 CPU Internal Cache          [Enabled]              Item Help
 External Cache              [Enabled]
 CPU L2 Cache ECC Checking   [Enabled]

 Quick Power On Self Test    [Enabled]
 First Boot Device           [USB-FDD]         Menu Level >
 Second Boot Device          [USB-CDROM]
 Third Boot Device           [HDD-0]
 Boot Other Device           [Enabled]
 Boot Up NumLock Status      [On]              Allows you to choose
 Gate A20 Option             [Normal]          the VIRUS warning
 Typematic Rate Setting      [Disabled]        feature for IDE Hard
                                               disk boot sector
 Typematic Rate (Chars/Sec)  [6]               protection. If this
 Typematic Delay (Msec)      [250]             function is enabled
 Security Option             [Setup]           and someone attempt to
 OS Select For DRAM > 64MB   [Non -OS2]        write data into this
 Report No FDD For WIN 95    [No]              area, BIOS will show a
 Video BIOS Shadow           [Enabled]         warning message on
 C8000-CBFFF Shadow          [Disabled]        screen and alarm beep
 CC000-CFFFF Shadow          [Disabled]        enabled copies Video
 D0000-D3FFF Shadow          [Disabled]        BIOS to shadow RAM
 D4000-D7FFF Shadow          [Disabled]        improves performance
 D8000-DBFFF Shadow          [Disabled]
 DC000-DFFFF Shadow          [Disabled]
 Full Screen LOGO Show       [Enabled]
 Small logo (EPA) Shadow     [Disabled]



 ↑↓→←:Move  Enter:Select  +/ /PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
      F5:Previous Values     F6:Optimized Defaults     F7:Standard 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.
The "Advanced DRAM Control" includes 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.

```
              Phoenix-AwardBIOS CMOS Setup Utility

                     Advanced Chipset Features

   DRAM  CLOCK                 [HOST CLK]
   DRAM Timing by SPD          [Enabled]
 : SDRAM Cycle Length               3                    Item Help
 : Bank Interleave             Disabled
   Memory Hole                 [Disabled]
   P2C/C2P Concurrency         [Enabled]               Menu Level >>
   Fast R-W Turn Around        [Enabled]
   System BIOS Cacheable       [Disabled]
   Video RAM Cacheable         [Disabled]
   Frame Buffer Size               8M
   AGP Aperture Size              64M
   OnChip USB                  [Enabled]
   USB Keyboard Support        [Enabled ]
   OnChip Sound                  AUTO
    CPU to PCI Write Buffer     [Enabled]
    PCI Dynamic Bursting        [Enabled]
    PCI Master 0 WS Write       [Enabled]
   PCI Delay Transaction       [Enabled]
    PCI#2 Access #1 Retry        [Disabled]
    AGP Master 1WS Write         [Disabled]
    AGP Master 1WS Read          [Disabled]
    Memory Parity/ECC Check      [Disabled]

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

PCI Delay Transaction

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

TV Standard

This motherboard has TV-OUT function.
This menu is to specify the TV system you use.

4-7 Integrated Peripherals

```
             Phoenix-AwardBIOS CMOS Setup Utility

                   Integrated Peripherals

   OnChip IDE Channel0        [Enabled]
   OnChip IDE Channel1        [Enabled]
   IDE Prefetch Mode          [Enabled]          Item Help
   Primary Master PIO         [Auto]
    Primary Slave PIO         [Auto]
   Secondary Master PIO        [Auto]
   Secondary Slave PIO         [Auto]
   Primary Master UDMA         [Auto]            Menu Level  >
   Primary Slave  UDMA         [Auto]
   Secondary Master UDMA        [Auto]
   Secondary Slave  UDMA       [Auto]
   Init Display First         [PCI Slot]
   IDE HDD Block Mode          [Enabled]
   Onboard FDD Controller      [Enabled]
   Onboard Serial Port 1       [3F8/IRQ4]
   Onboard Serial Port 2       [2F8/IRQ3]
   UART 2 Mode                [Standard]
 X IR Function Duplex           Half
 X TX,RX Inverting Enable       No , Yes
   Onboard Parallel Port      [378/IRQ7]
   Onboard Parallel Mode      [Normal]
    ECP Mode Use DMA           [3]
    Parallel Port EPP Type    [ EPP1.9]
   Onboard Serial Port 3      [3E8]
   Serial Port 3 Use IRQ      [IRQ10]
   Onboard Serial Port 4      [2E8]
    Serial Port 4 Use IRQ      [IRQ11]
   Onboard Legacy Audio       [Disabled]
 X Sound Blaster              Disabled
 X SB I/O Base Address         220H
 X SB IRQ Select               IRQ5
 XSB DMA Select                DMA1

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

Note: If you find conflicts on IRQ Address, please adjust I/O port IRQ address setting.

Lnit Display First

4-8 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save 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]
 > Power Management          [Press Enter]              Item Help
   ACPI Suspend Type        [S1(POS)
   PM Control By APM        [Yes]
   Video Off Option         [Suspend->Off]
   Video Off Method         [V/H SYNC+Blank]
   MODEM Use IRQ            [ 3 ]                      Menu Level  >
   Soft-Off by PWRBTN       [Instant-Off]
   State After Power Failure   [Off]
 · Wake Up Events           [Press Enter]


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

Wake-Up Events

Please refer to section 4-8-2

4-8-1　Power Management

```
          Phoenix-AwardBIOS CMOS Setup Utility
                      Power Management

  Power Management          [User Define]
  HDD Power Down            [Disabled]                Item Help
  Doze Mode                 [Disabled]
  Suspend Mode              [Disabled]

                                                   Menu Level >>

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

4-8-2　Wake Up Events

```
          Phoenix-AwardBIOS CMOS Setup Utility
                      Wake Up Events

  VGA                       [OFF]
  LPT & COM                 [LPT/COM]                 Item Help
  HDD & FDD                 [ON]
  PCI Master                [OFF]
  Power On By PCI/LAN Card     [Disabled]
  Modem Ring Resume            [Disabled]
  RTC Alarm Resume             [Disabled]
x Date (of Month)                  0                Menu Level >>
x Resume Time (hh:mm:ss)       0 : 7 : 0
> IRQs Activity Monitoring     [Press Enter]

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

IRQs Activity Monitoring

Please refer to section 4-8-2.1

4-8-2.1　IRQs Activity Monitoring

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

   Primary INTR          [ON]
   IRQ3   (COM 2)        [Enabled]                Item Help
   IRQ4   (COM 1)        [Enabled]
   IRQ5   (LPT 2)        [Enabled]
   IRQ6   (Floppy Disk)   [Enabled]
   IRQ7   (LPT 1)        [Enabled]
   IRQ8   (RTC Alarm)    [Disabled]          Menu Level >>>
   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 Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help
        F5:Previous Values  F6:Optimized Defaults F7:Standard 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]       Default is Disabled.
                                              Select Enabled to
   PCI/VGA Palette Snoop   [Disabled]         reset Extended System
   Assign IRQ For VGA      [Enabled]          Configuration Data
   Assign IRQ For USB      [Enabled]          ESCD) when you exit
                                              Setup if you have
                                              installed a new add-on
                                              and the system
                                              reconfiguration has
                                              caused such a serious
                                              conflict that the OS
                                              cannot boot

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

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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.          33°C/91°F    │                        │
 │  Current System Temp.       29°C/84°F    │     Item Help          │
 │  Current CPU FAN1 Speed     5100 RPM     │                        │
 │  Current CPU FAN2 Speed        0  RPM    │   Menu Level >         │
 │  Vcore                      1.50V        │                        │
 │   2.5V                      2.50V        │                        │
 │   3.3V                      3.30V        │                        │
 │    5V                       5.10V        │                        │
 │   12V                      11.95V        │                        │
 │                                          │                        │
 ├──────────────────────────────────────────┴────────────────────────┤
 │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
 │     F5:Previous Values      F6:Optimized Defaults    F7:Standard 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/2.5V/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
┌────────────────────────────────────────┬─────────────────────────┐
│ Auto Detect DIMM/PCI Clock    [Enabled] │                         │
│ Spread Spectrum              [Disabled] │       Item Help         │
│                                         ├─────────────────────────┤
│                                         │   Menu Level  >         │
│                                         │                         │
│                                         │                         │
├────────────────────────────────────────┴─────────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│     F5:Previous Values      F6:Optimized Defaults      F7:Standard 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 Standard/Optimized Defaults

Load Standard Defaults

When you press <Enter> on this item, you get 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.

Chapter5

DRIVER & FREE PROGRAM 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

95/98/98SE/ME/NT4.0/2000/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:\SETUP.EXE (assuming X is your CD-ROM drive).
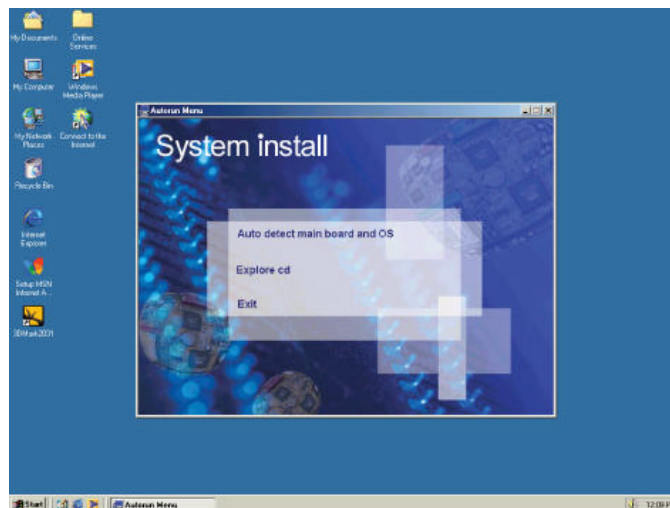
From SYSTEM INSTALL MENU you may make 3 selections:

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
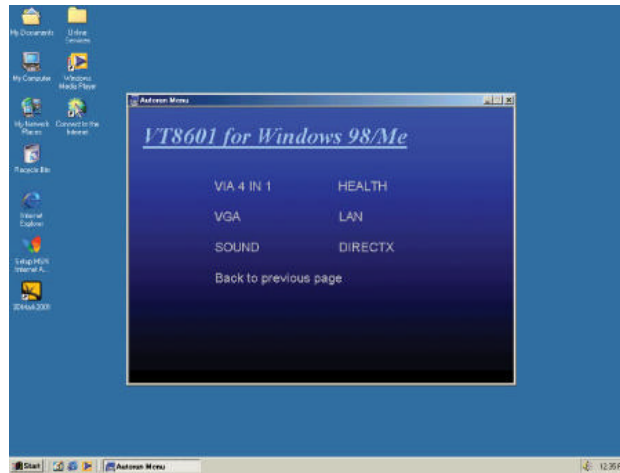
1. IDE   install VIA IDE/AGPVXD/IRQ ROUTING/INF driver
2. VGA   install on-board VGA driver
3. SOUND   install AC97 Audio Codec Installing driver
4. PC-HEALTH   install VIA PC-HEALTH hardware monitor driver
5. LAN   to LAN install driver readme file
6. DIRECTX   install DirectxX driver

Each selection is illustrated as below:

5-1 IDE   Install VIA IDE/AGPVXD/IRQ ROUTING/INF Driver

IDE :   VIA ATAPI VENDOR SUPPORT DRIVER IS USED TO FIX
                  COMPATIBILITY ISSUE FOR IDE DEVICES.
AGP VXD :   VIA AGP VXD 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.
IRQ ROUTING :   VIA PCI IRQ MINIPORT DRIVER IS TO BE INSTALLED UNDER WIN98 ONLY. IT
                  WILL FIX PCI IRQ ROUTING SEQUENCE.
INF :   VIA REGISTRY DRIVER IS TO BE INSTALLED UNDER WINDOWS.
                 THE DRIVER WILL ENABLE VIA POWER MANAGERMENT
                 CONTROLLER.
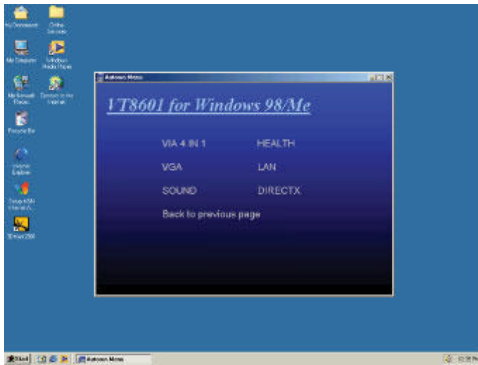
1.Click VIA 4 IN 1 when System Install
MENU appears.
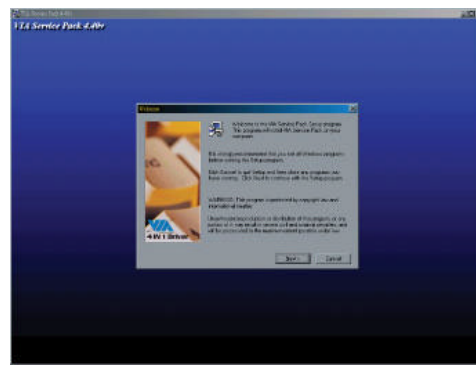
2.Click NEXT when VIA Service Pack
 Wizard appears.
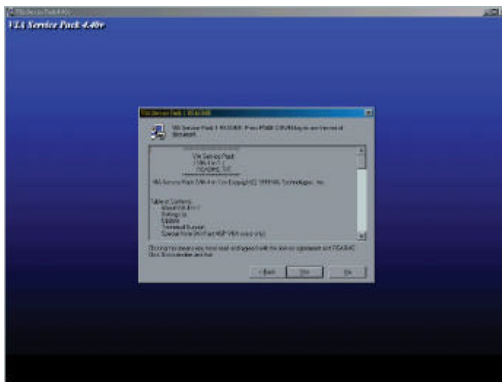
3.This is to announce the Copy Right.
 Click NEXT.
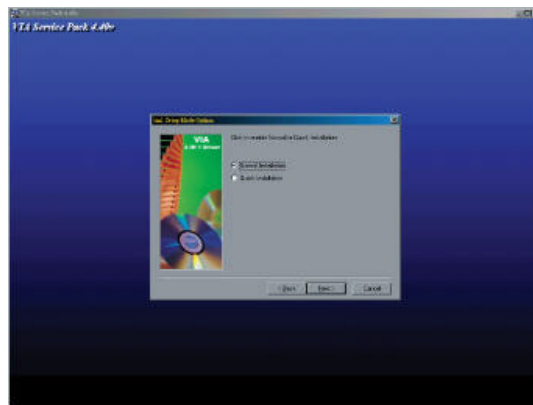
4.Click to enable Normal or Quick
 install. Click NEXT.
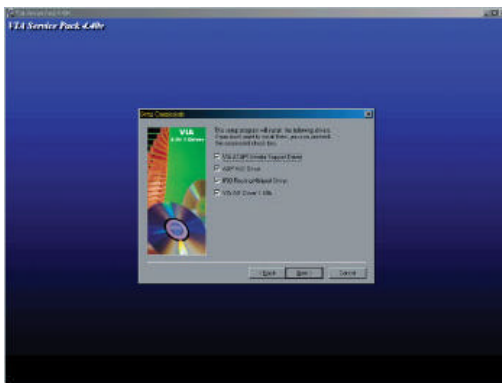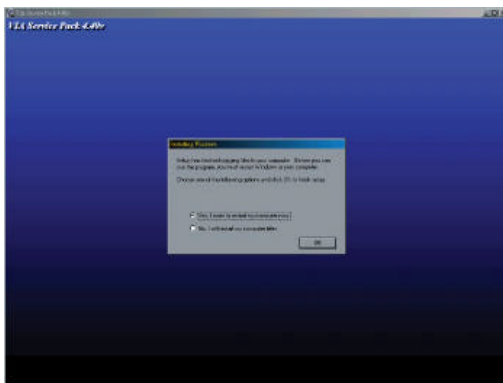

5.Choose all the drivers. Click NEXT.
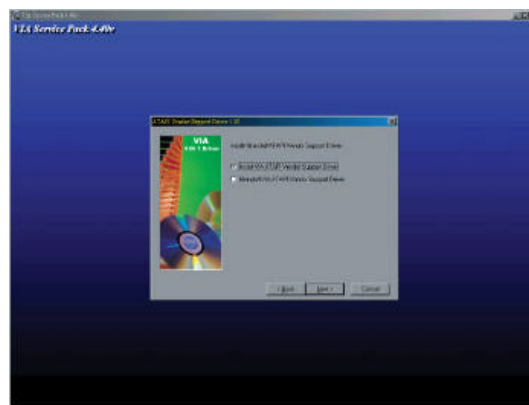
6.Click NEXT to install ATAPI Vender
 Support Driver.

7.Click NEXT to choose Enabled DMA
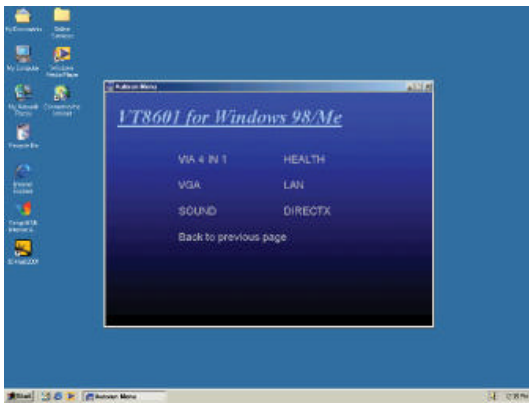 Mode.
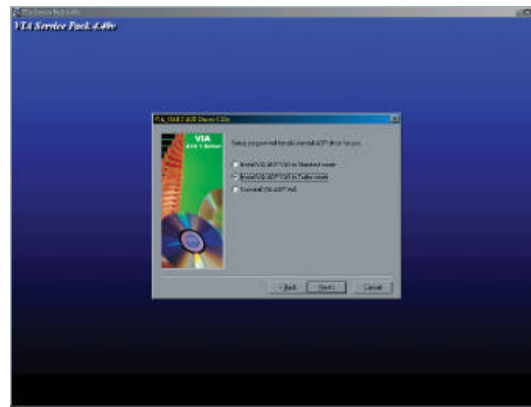
8.Click NEXT to install VIA AGP VXD
  Driver.

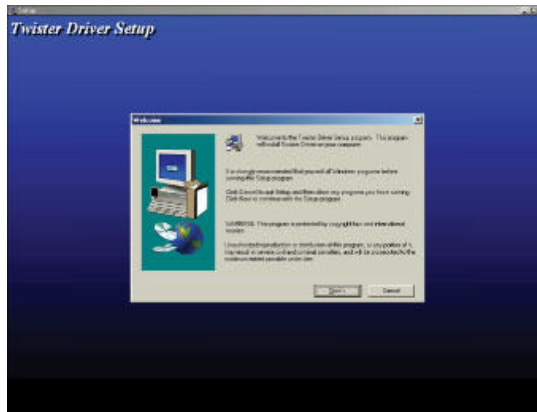9. Click Finish to restart computer.

NOTE: SYSTEM INSTALL will auto detect file path

X:\driver\VIA\Driver\setup.exe

This driver supports WINDOWS 95\98\98SE\NT4.0\2000\XP
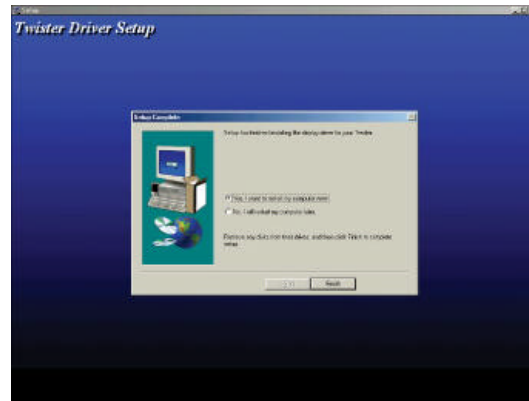
5-2 VGA   INSTALL VIA 8601 VGA Driver

1.Click VGA when System Install
MENU appears.

2.Click NEXT when VIA Tech KLE/PLE
   Display Driver Setup appears.
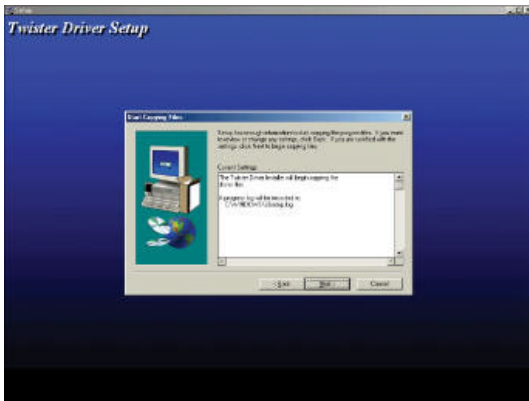
3. This VIA Tech KLE/PLE Display
Driver install will begin copying the
driver files. Click NEXT.

4.Click FINISH to Restart Computer.

NOTE: The path of the file For WINDOWS 95/98/98SE\ME
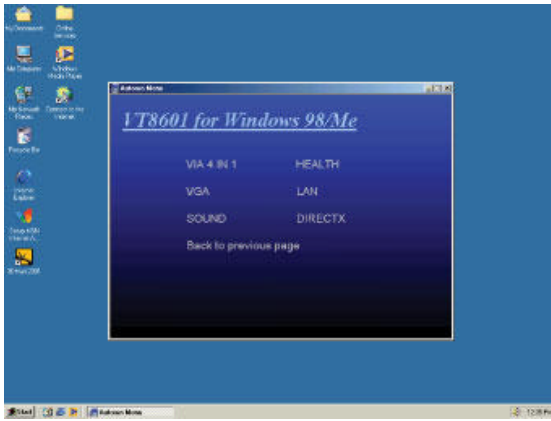
      X:\driver\VIA\8601VGA\WIN9Xme\SETUP.EXE

    For NT4.0

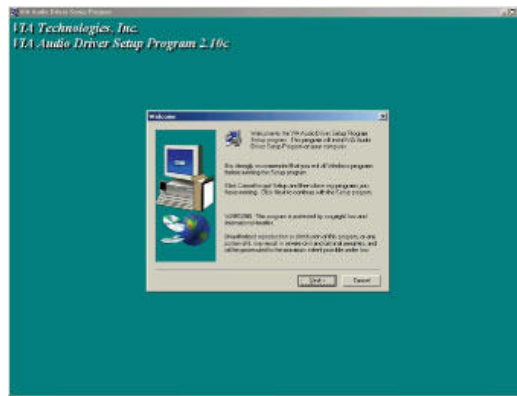   **X:\driver\VIA\8601VGA\NT40**

    For WINDOWS 2000

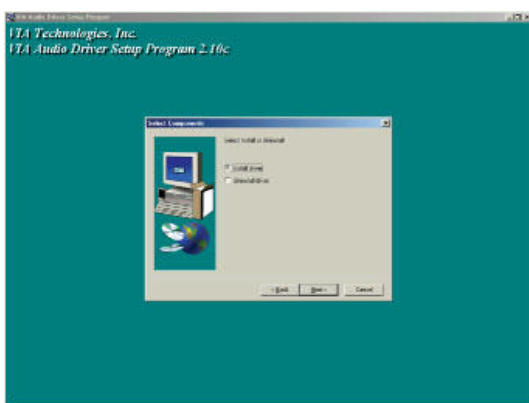   **X:\driver\VIA\8601VGA\W2kxp\SETUP.EXE**

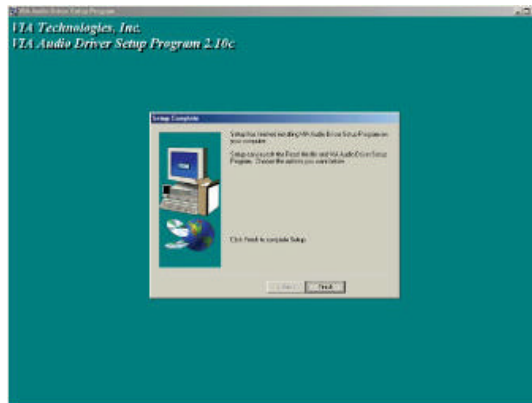**5-3 SOUND   Install ALC Audio Codec Driver for VIA**

1.Click SOUND when System Install

MENU appears.

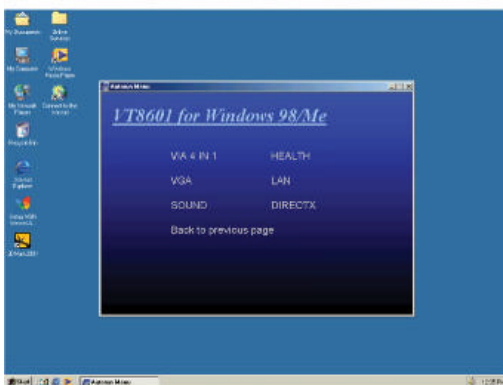2.Click NEXT when VIA Audio driver
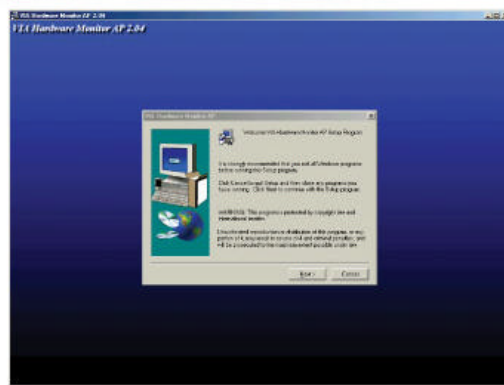
   setup appears.

3.Click NEXT to Install Driver .

4.Click FINISH to complete Setup.

NOTE: The path of the file For WIN98/NT4.0/WIN2K \XP

         X:\ driver\via\viaudio\setup.exe

1.Click PC-HEALTH when System Install MENU appears.

2. Click NEXT when VIA Hardware Monitor Wizard appears.
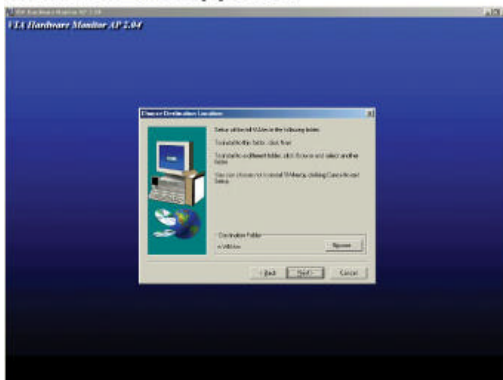
3.Click NEXT to install Driver in C:\VIAHM.
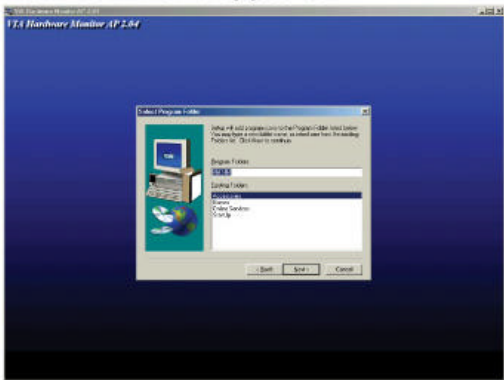
4.Click NEXT to use default Program Folders name.

5-4-1   HOW TO Use VIA Hardware Monitor Application Software

1.Click Programs , VIA HM and Monitoring Windows

2.Then the Monitoring Windows will show x:\ driver\via\KXHEALTH\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
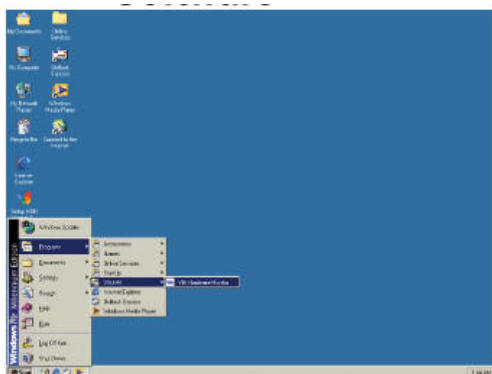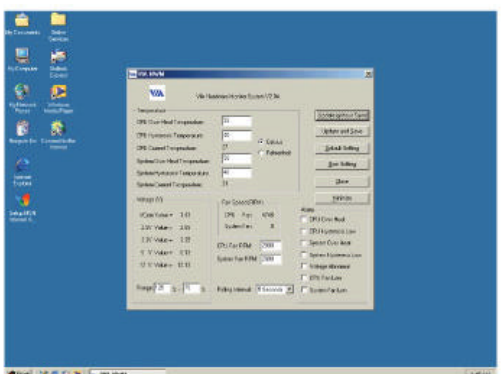PAGE DOWN KEY to Disable.

5-6   HOW TO UPDATE BIOS

Method 1.   Use "Magic BIOS" to update BIOS in Windows 98 (refer to page 40)

Method 2.   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:\FLASH\AWDFLASH.EXE or download it from our web site.

STEP 3. Copy the latest BIOS for CV860B from our web site to your boot disc.

STEP 4. Insert your boot disc into A:

             Start the computer and type "Awdflash A:\CV860Bxxx.BIN/SN/PY/CC/R"

             CV860Bxxx.BIN is the file name of the latest BIOS. It may be CV860BA1.

            BIN or CV860BB2.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	VIA Eden 533MHz—on board
DDR RAM	256MB SDRAM (KingStone)
Storage Driver	CF 64MB(Toshiba);DOC 16MB(M-System)
Operating System	Windows ME
Test Program	3D Mark 2000

Test Result

Hard Disk	Max.	Operating	Static
Slim Type HDD	1.81A/ 12V	1.5A/ 12V	0.08A
Standard HDD	2.18A/ 12V	1.8A/ 12V	0.08A

Appendix B: BIOS Setup for IDE Storage

	In BIOS setup		Hardware Installation			
	Boot Device		Primary		Secondary	
	First	Second	Master	Slave	Master	Slave
1	HDD-0	HDD-3	***HD 3.5"**	CD-ROM	CF card	HD2.5"
2-Default	HDD-0	HDD-3	--	--	***CF card**	HD2.5"
3	HDD-1	HDD-3	--	--	CF card	***HD2.5"**
4	HDD-1	HDD-3	HD 3.5"	CD-ROM	***CF card**	HD2.5"
5	HDD-2	HDD-3	HD 3.5"	CD-ROM	CF card	***HD2.5"**
6	HDD-2	HDD-3	HD 3.5"	HD 3.5"	***CF card**	HD2.5"
7	HDD-3	HDD-3	HD 3.5"	HD 3.5"	CF card	***HD2.5"**
8	USB-FD	HDD-3	HD 3.5"	HD 3.5"	CF card	***HD2.5"**
9	CD-ROM	HDD-3	***HD 3.5"**	CD-ROM	CF card	HD2.5"
10	CD-ROM	HDD-1	HD 3.5"	CD-ROM	***CF card**	HD2.5"
11	USB-FD	HDD-2	HD 3.5"	CD-RO	CF card	***HD2.5"**

" * " First Boot Device

> **NOTE!**
>
> If slim-type HDD is set as Master and CF card is set as Slave, the booting table
>
> will show the wrong message.(Fig. B-1) It results from CF card. Please change the
>
> setting of "Secondary Master UDMA" and "Secondary Slave UDMA" from [Auto] to
>
> [Disable] (Fig. B-2) The correct booting table will.

```
CPU  Type:            VIA  C3                  Base  Memory:     640K
CPU  ID/ ucode ID:    0673                     Extended  Memory:  252928K
CPU  clock:           533A  MHz                 Cache  Memory:      64K


Diskette  Drive  A:    None                    Display  Type: EGA/ VGA
Diskette  Drive  B:    None                    Serial  Port(s): 3F8 2F8
Pri. Master Disk:     None                      Parallel  Port(s): 378
Pri. Slave Disk:       None                     EDD  DRAM  at  Bank: None
Sec. Master Disk: CHS, PIO2, 64MB       SDRAM  at Bank: 0
Sec. Slave Disk:   LBA, ATA100
```

(Fig. B-1)

```
                Phoenix-AwardBIOS CMOS Setup Utility

                       Integrated Peripherals

      OnChip IDE Channel0          [Enabled]
      OnChip IDE Channel1          [Enabled]
      IDE Prefetch Mode            [Enabled]          Item Help
      Primary Master PIO           [Auto]
      Primary Slave PIO            [Auto]
      Secondary Master PIO         [Auto]
      Secondary Slave PIO          [Auto]          Menu Level >
      Primary Master UDMA          [Auto]
      Primary Slave  UDMA          [Auto]
      Secondary Master UDMA        [Auto]
      Secondary Slave  UDMA        [Auto]
      Init Display First           [PCI Slot]
      IDE HDD Block Mode           [Enabled]
      Onboard FDD Controller       [Enabled]
      Onboard Serial Port 1        [3 F8/IRQ4]
      Onboard Serial Port 2        [3 F8/IRQ3]
      UART 2 Mode                  [Standard]
    X IR Function Duplex            Half
    X TX,RX Inverting Enable        No , Yes
      Onboard Parallel Port        [378/IRQ7]
      Onboard Parallel Mode        [Normal]
    X ECP Mode Use DMA              3
    X Parallel Port EPP Type        EPP1.9
      Onboard Serial Port3         [3EB]
      Serial Port3 use IRQ         [IRQ4]
      Onboard Serial Port4         [2EB]
      Serial Port4 use IRQ         [IRQ3]
      Onboard Parallel Port2       [278]
      Parallel Port2 use IRQ       [IRQ5]
      Onboard Legacy Audio         [Disabled]
    X Sound Blaster                 Disabled
    X SB I/O Base Address           220H
      SB IRQ Select                 IRQ5
      SB DMA Select                 DMA1

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

(Fig. B-2)

CPU Type: VIA C3	Base Memory: 640K
CPU ID/ ucode ID: 0673	Extended Memory: 252928K
CPU clock: 533A MHz	Cache Memory: 64K

Diskette Drive A: None	Display Type: EGA/ VGA
Diskette Drive B: None	Serial Port(s): 3F8 2F8
Pri. Master Disk: None	Parallel Port(s): 378
Pri. Slave Disk: None	EDD DRAM at Bank: None
Sec. Master Disk: CHS, PIO2, 64MB SDRAM at Bank: 0	
Sec. Slave Disk: LBA, PIO4, 20005MB	

show as Fig.B-3