

CV860A
133MHz FSB / VGA / LAN / Sound

133MHz FSB . All-in-one

Sound . 3LAN

ATA 33/66/100 . DOC . USB . IrDA . CF

Multimedia Board

NO.CV860A

Release date: Aug.2.2002

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Contents

CV860A

CHAPTER 1 GENERAL INFORMATION	1
1-1 MAJOR FEATURE.....	2
1-2 SPECIFICATION	3
1-3 PACKING LIST*	4
CHAPTER 2 HARDWARE INSTALLATION	5
2-1 UNPACKING PRECAUTION	5
2-2 UNPACKING CHECKUP	6
2-3 DIMENSION	7
2-4 LAYOUT	8
2-5 DIAGRAM	9
2-6 INSTALL MEMORY	10
2-7 LIST OF JUMPERS	11
2-8 JUMPER SETTING DESCRIPTION	12
2-9 CMOS DATA SET	12
2-10 JCF1 CF CARD VOLTAGE SELECT	13
2-11 JCF2 CF CARD MASTER/ SLAVE SELECT	14
2-12 JL2 LAN1 ENABLE/ DISABLE SELECT	14
2-13 JL1 LAN2 ENABLE/ DISABLE SELECT	15
2-14 JL4 LAN3 ENABLE/ DISABLE SELECT	15
2-15 DISKONCHIP™ ADDRESS SETTING	16
CHAPTER 3 CONNECTION	17
3-1 LIST OF CONNECTORS	17
3-2 FAN CONNECTOR	18
3-3 IDE CONNECTORS	18
3-4 COMPACT-FLASH MEMORY SOCKET	20
3-5 PARALLEL PORT CONNECTOR	21
3-6 SERIAL PORT CONNECTOR.....	22
3-7 KEYBOARD AND MOUSE CONNECTOR	23
3-8 USB PORT/ HEADER	24
3-9 IR CONNECTORFAST	25
3-10 VGA CONNECTOR	25
3-11 LAN PORT	26
3-12 AUDIO PORT CONNECTOR	27
3-13 DC 12V IN AND DC OUT	28
3-14 FRONT-PANEL	29

CHAPTER 4 INTRODUCTION OF BIOS	30
4-1 ENTER SETUP	30
4-2 GETTING HELP	31
4-3 THE MAIN MENU	31
4-4 STANDARD CMOS FEATURES	33
4-5 ADVANCED BIOS FEATURES	34
4-6 ADVANCED CHIPSET FEATURES	35
4-7 INTEGRATED PERIPHERALS	36
4-8 POWER MANAGEMENT SETUP	37
4-8-1 POWER MANAGEMENT	38
4-8-2 WAKE UP EVENTS	38
4-8-2.1 IRQS ACTIVITY MONITORING	39
4-9 PNP/PCI CONFIGURATION SETUP	39
4-10 PC HEALTH STATUS	40
4-11 FREQUENCY/VOLTAGE CONTROL	41
4-12 LOAD STANDARD/OPTIMIZED DEFAULTS	41
4-13 SET SUPERVISOR/USER PASSWORD	42
CHAPTER 5 DRIVER & FREE PROGRAM INSTALLATION	43
5-1 IDE INSTALL VIA IDE/AGPVXD/IRQ ROUTING/INF DRIVER	44
5-2 VGA INSTALL VIA 8601 VGA DRIVER	46
5-3 SOUND INSTALL ALC AUDIO CODEC DRIVER FOR VIA	47
5-4 PC-HEALTH INSTALL VIA HARDWARE MONITOR DRIVER	49
5-5 LAN INSTALL	50
5-6 HOW TO DISABLE ON-BOARD SOUND	50
5-7 HOW TO UPDATE BIOS	50
APPENDIX A: POWER CONSUMPTION TEST.....	51
APPENDIX B: BIOS SETUP FOR IDE STORAGE.....	52

Chapter-1

General Information

The CV860A 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 CV860A 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

CV860A 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 CV860A 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 multi-LAN option*:
 - * CV860A-1R ----1* Realtek 8100B 10/100B-T
 - * CV860A-3R ----3* Realtek 8100B 10/100B-T
 - * CV860A-1T ----1* Intel 82551 10/100B-T
 - * CV860A-3U ----2* Intel 82551 10/100B-T + 1* Intel 82540 EM 10/100/1000B-T LAN
9. DiskOnChip memory size 8MB up to 576MB
10. Compact Flash Reader Type I/II for IDE/ATA interface
11. Two 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. DC 12V-IN Power Adapter support

*The models mentioned above are standard models currently.

The multi-LAN option might change due to customization.

1-2 Specification

1. CPU: VIA 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: * CV860A-1R ----1* Realtek 8100B 10/100B-T (Wake-On-LAN)

* CV860A-3R ----3* Realtek 8100B 10/100B-T (Wake-On-LAN)

* C860A-1T ----1* Intel 82551 10/100B-T

* CV860A-3U ----2* Intel 82551 10/100B-T + 1* Intel 82540 EM
10/100/1000B-T LAN

9. 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

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

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

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

13. IR: One IrDA TX/RX header

14. USB: Support four USB ports

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

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

17. Sound: AC97 2.1 Sound, full-duplex

18. BIOS: Award BIOS version 6.1

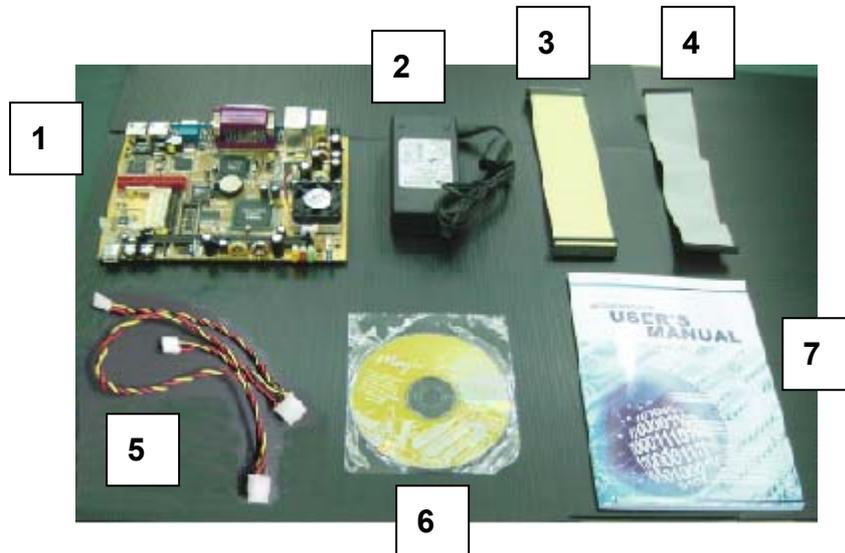
19. Form Factor: LIGHT Board, 200x150mm

20. Power: DC12V-IN power Adapter input

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

1-3 Packing List*

- | | |
|---|-------------------|
| 1 CV860A Board | 6 Utility CD Disk |
| 2 DC 12V Power Adapter | 7 User's Manual |
| 3 One ATA 100 Flat Cable (2.54mm) | |
| 4 One slim IDE port flat Cable (2.00mm) | |
| 5 Power Cable | |



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

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

Chapter-2

Hardware Installation

This chapter provides the information how to install the hardware of CV860A. Please follow section 1.3, 2.1 and 2.2 to check the delivery package and unpack carefully. Please follow the jumper setting procedure.

2-1 Unpacking Precaution

The CV860A 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 CV860A. 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 CV860A 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.

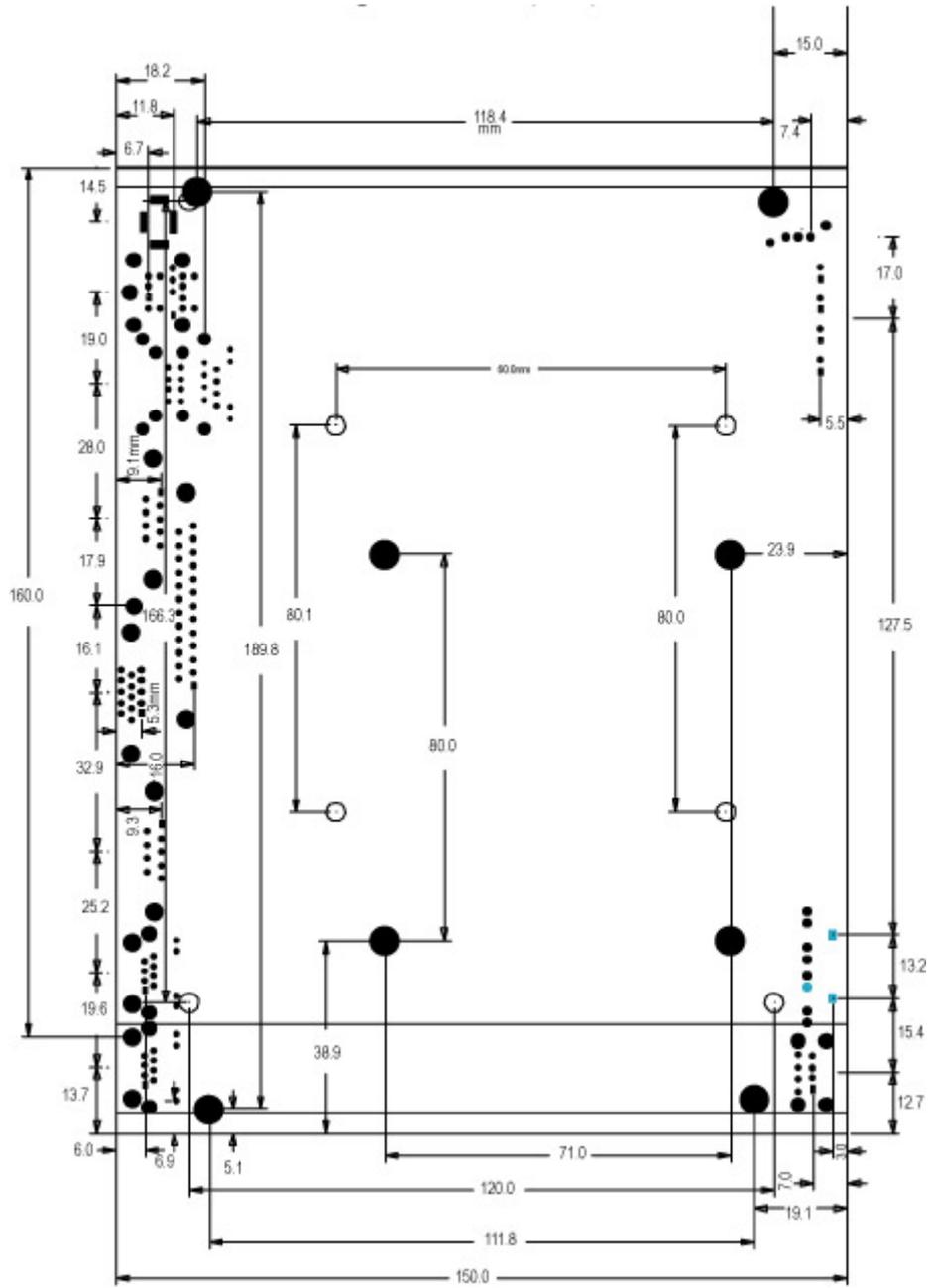
2-2 Unpacking checkup

First of all, please follow all necessary steps of section 2.1 to protect CV860A from electricity discharge. With reference to section 1.3, please check the delivery package again with following steps:

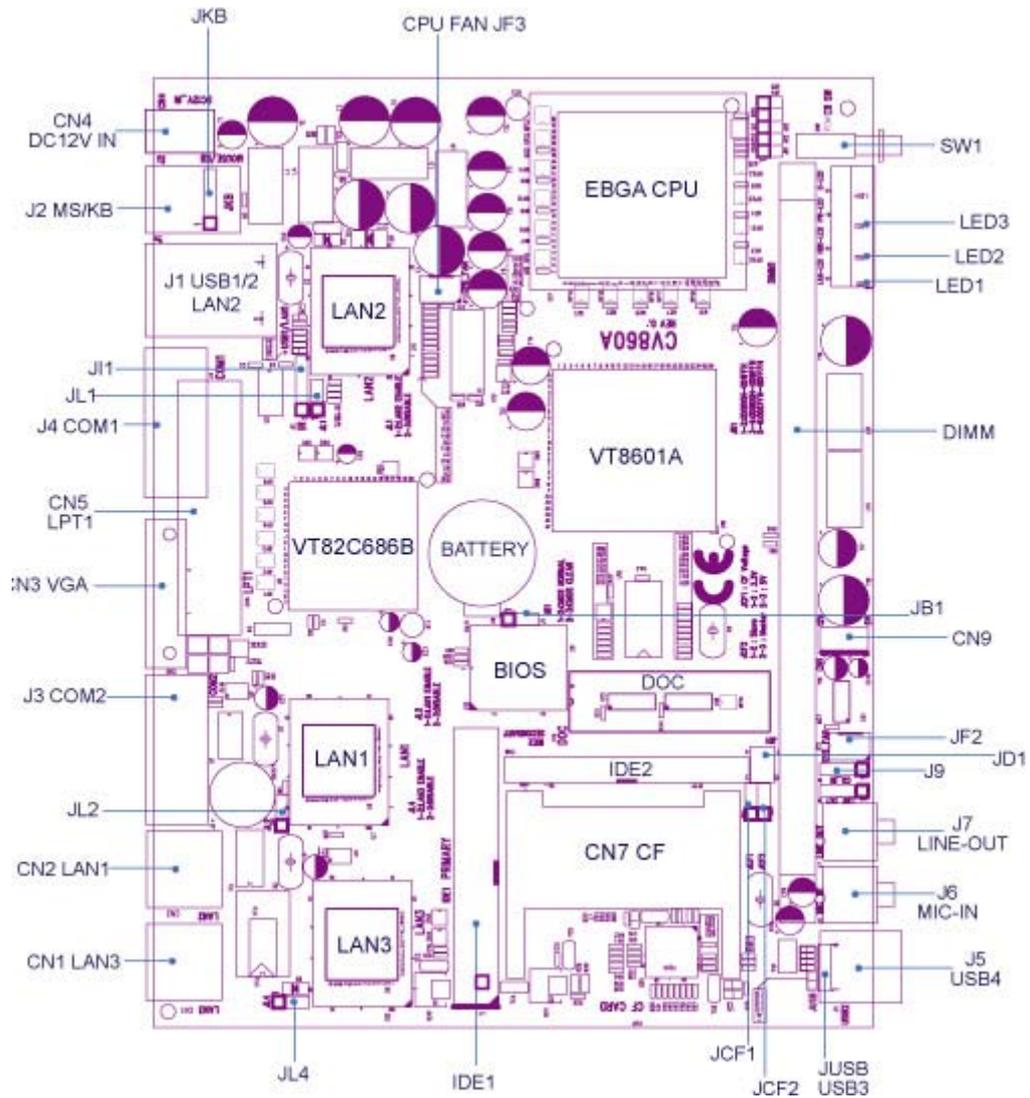
1. Unpack the CV860A board and keep well storage of all packing material, manual and driver disc etc.
2. Is there any components lose or drop from the board? DO NOT INSTALL IF HAPPENED.
3. Is there any visible damage on of the board? DO NOT INSTALL IF HAPPENED.
4. Well check your optional parts (i.e. 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.

2-3 Dimension

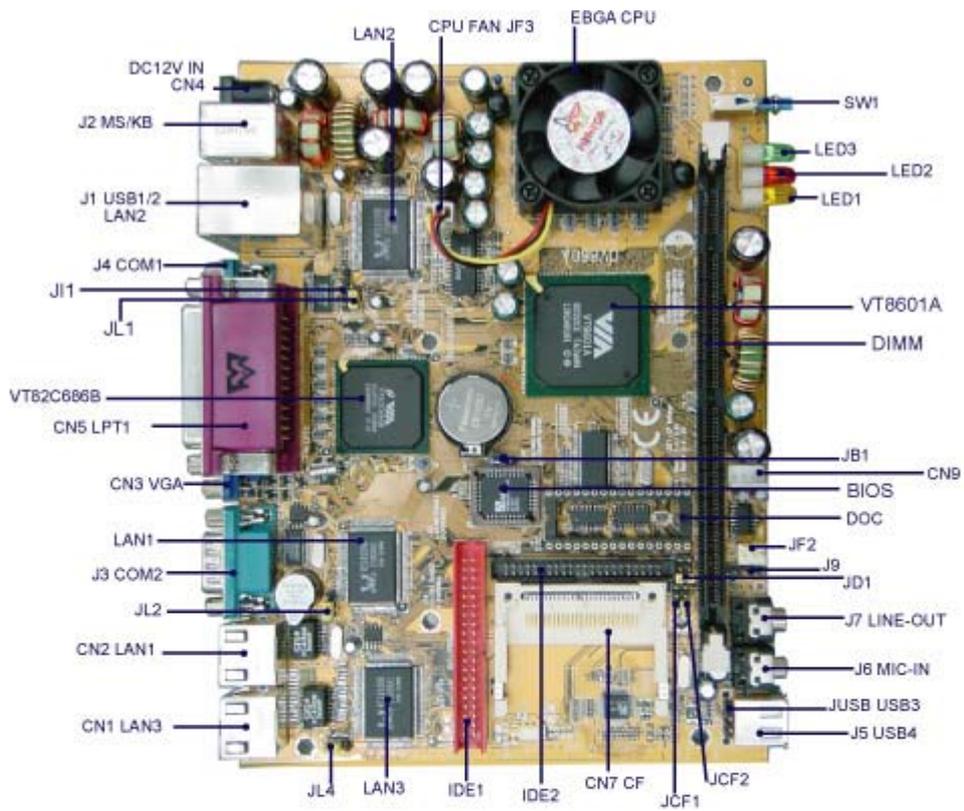
Light 200x150(mm)



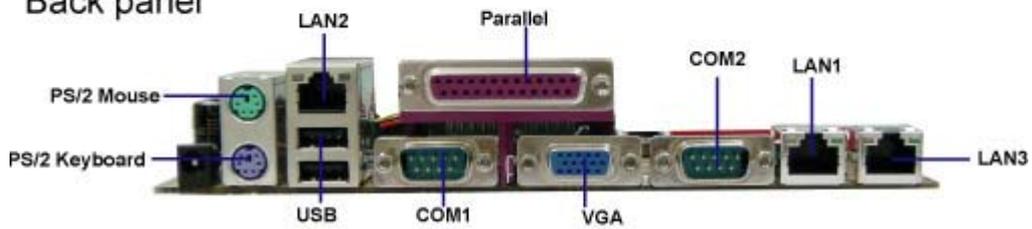
2-4 Layout



2-5 Diagram



Back panel



Front panel



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.

Mixed 1M/2M/4M/8M/16M/32M x N DRAMs Type.

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.**

The maximum height of DIMM is 30mm.

Install SDRAM module oriented as Fig. 2.1.

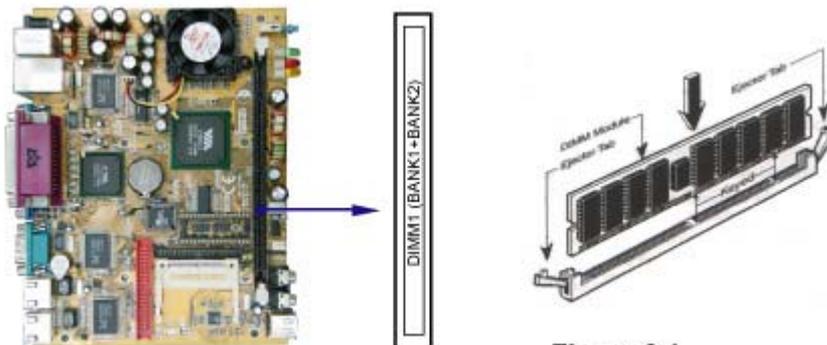


Figure 2.1

NOTE!

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

WARNING!

If the SDRAM CLOCK is set at 133MHz, you must use PC133-compliant DIMMs. When this motherboard operates at 133Mhz, most system will not even boot if non PC133-compliant SDRAM modules are used because of the strict timing issues. If your DIMMs are not PC133-compliant, set the SDRAM clock at 100MHz to ensure system's stability.

2-7 List of Jumpers

JB1: CMOS DATA SET

JCF1: CF Card Voltage select

JCF2: CF Card Master/Slave select

JD1: DiskOnChip address select

JL2: LAN1 Enabled/Disabled select

JL1: LAN2 Enabled/Disabled select

JL4: LAN3 Enabled/Disabled 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 in this manual.

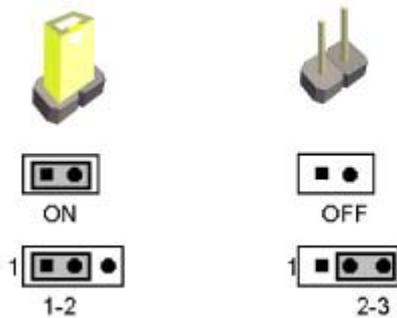


Figure 2.2

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.

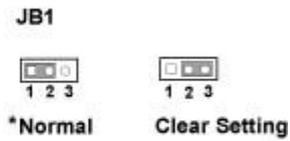
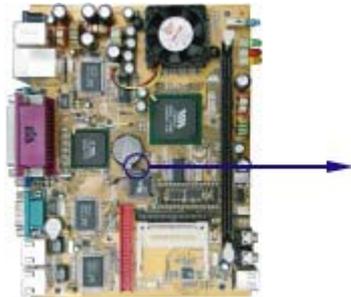
To clear the CMOS, follow the procedures below:

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 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

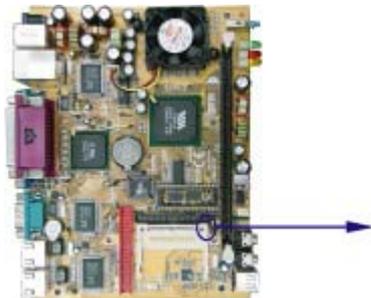
JB1	Description
*1-2	*Normal Set
2-3	CMOS Data clear



2-10 JCF1 CF Card Voltage select

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

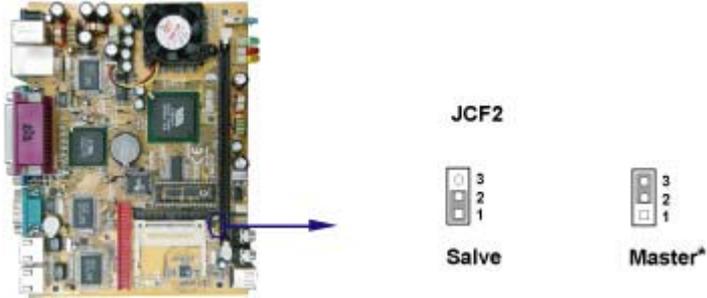
JCF1	Description
1-2	CF Card use 3.3 Voltage
*2-3	*CF Card use +5V voltage



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.

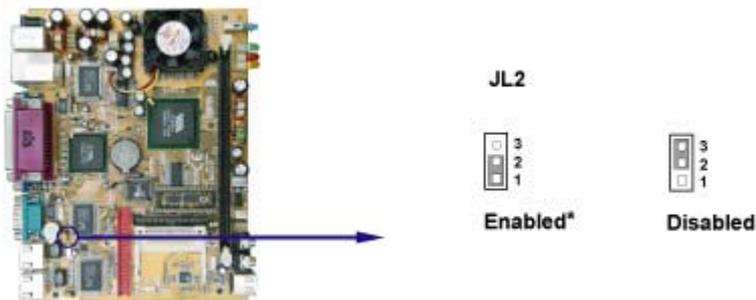
JCF2	Description
1-2	CF Card use Slave type
*2-3	*CF Card use Master type



2-12 JL2 LAN1 Enable/Disable select

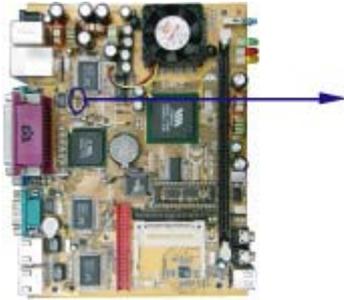
CV860A can be equipped with three built-in Ethernet controller at most. You can enable/disable the LAN function of each RJ-45 jack by the following setup.

JL2	Description
*1-2	LAN1 Hardware set Enabled
2-3	LAN1 Hardware set Disabled



2-13 JL1 LAN2 Enable/Disable select

JL1	Description
*1-2	* LAN2 Hardware set Enabled
2-3	LAN2 Hardware set Disabled



JL1



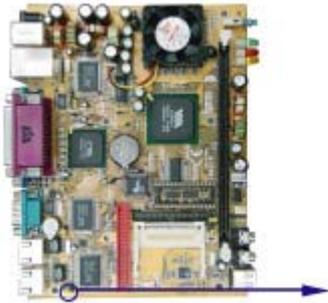
Enabled*



Disabled

2-14 JL4 LAN3 Enable/Disable select

JL4	Description
*1-2	* LAN3 Hardware set Enabled
2-3	LAN3 Hardware set Disabled



JL4



Enabled*



Disabled

2-15 DiskOnChip™ Address Setting

The CV860A provides a socket to install the DiskOnChip™ module.

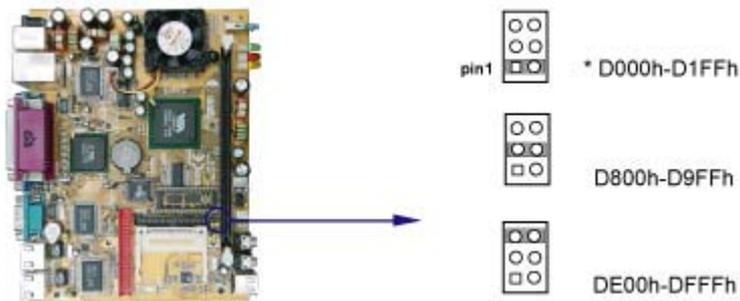
DOC 32-pin dip socket can support flash disk up to 576MB

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 and RJ45(LAN2) Jack

J4 : COM1 DB9 Connector

CN5: Parallel Port 1 DB25 Connector

CN3: VGA DB15 Connector

J3 : COM2 DB9 Connector

CN2: RJ45 LAN1 Jack

CN1: RJ45 LAN3 Jack

IDE1: IDE1 2x20 Pin(2.54mm) Connector

CN6: IDE2 2x22 Pin (2.0mm) Connector

CN7: CF Card 50-pin Socket

U14: DiskOnChip Socket

J11: 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

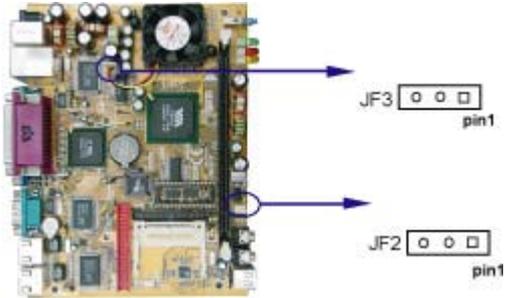
JF3: CPU FAN Connector

3-2 FAN Connector

CV860A 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-interface 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.

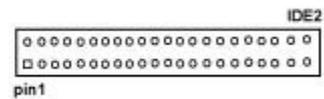
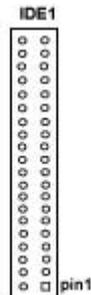
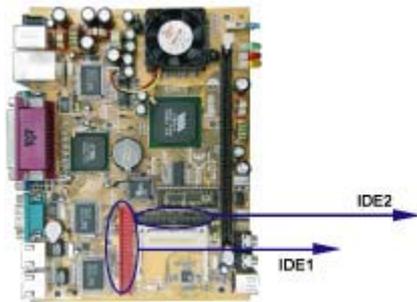
PIN NO.	Description	PIN NO.	Description
1	RESET#	2	GROUND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GROUND	20	+5V
21	DREQ	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	IORDY	28	PULL DOWN
29	DACK#	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 CS0#	38	HD CS1#
39	HD LED	40	GROUND

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

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)

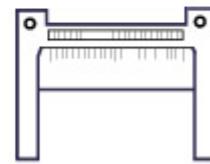
PIN NO.	Description	PIN NO.	Description
1	RESET#	2	GROUND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GROUND	20	NC
21	DREQ	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	IORDY	28	PULL DOWN
29	DACK#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



3-4 Compact - Flash Memory Socket

CV860A 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	-CS0	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



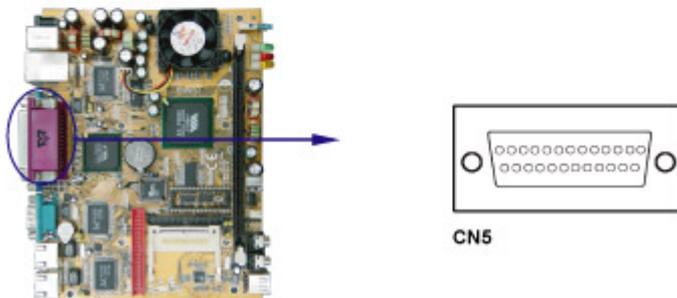
CN7

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

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

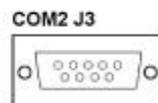
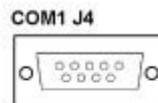
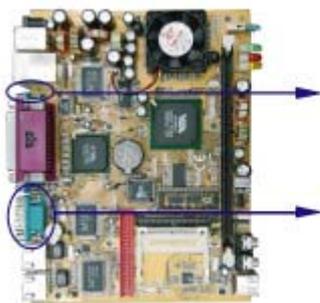
The CV860A board offers two high speed NS16C550 compatible UARTS with Read/ Receive 16 byte FIFO serial ports. The serial ports are two DB-9 external connectors. The On-board serial port can be disabled through BIOS SETUP (see Chapter 4).

. COM1 Connector - J4 D-SUB 9-Pin

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

. COM2 Connector-J3 D-SUB 9-pin

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

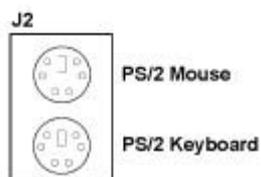
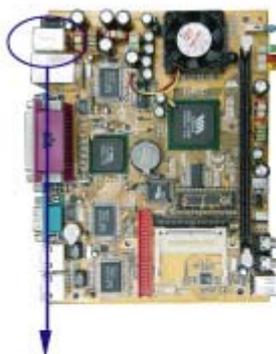


3-7 Keyboard and Mouse Connector

The CV860A 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



- 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 CV860A provides three external 4-pin Jacks for USB-1/2 and USB-4 as well as one 4-pin header for USB-3. Please refer to the following default pin assignment.

USB 1/2 Port Connector-J1

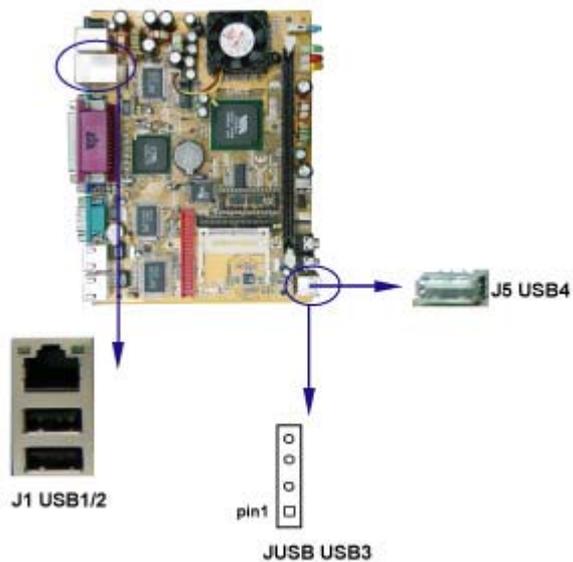
PIN NO.	Description	PIN NO.	Description
1	+5V	1	+5V
2	USB DATA0-	2	USB DATA1-
3	USB DATA0+	3	USB DATA1+
4	GND	4	GND

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	GND

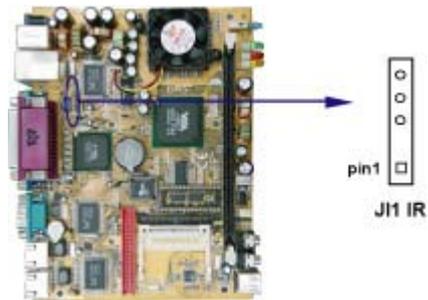


3-9 IR Connector

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)

. IR Connector -J11 5-pin(2.54mm)

PIN NO.	Description
1	+5V
2	KEY
3	IRRX
4	GND
5	IRTX

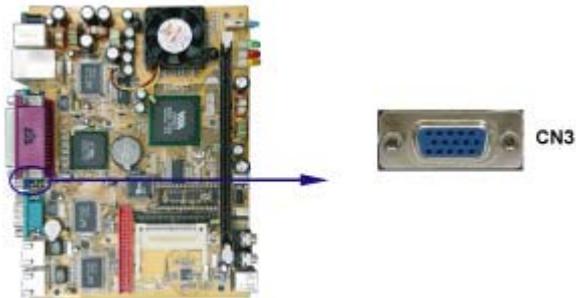


3-10 VGA Connector

The CV860A 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-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 802.3u 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/J1/CN1 Connector.

Besides 10/100 Base-T, CV860A can provide Giga LAN solution through CN1 (LAN 3), once equipped with Intel 82540EM chipset.

CV860A provides multi-LAN solution with various chip and spec.

Here is the list of current models:

CV860A-1R ---- One Realtek 8100B 10/100B-T

CV860A-3R ---- Three Realtek 8100B 10/100B-T

CV860A-1T ---- One Intel 82551 10/100B-T

CV860A-3U ---- Two Intel 82551 10/100B-T and One Intel 82540 EM 10/100/1000B-T

CN2 RJ45 JACK-----LAN1

J1 RJ45 JACK----- LAN2

CN1 RJ45 JACK-----LAN3 . RJ-45 10/100B-T JACK-CN2/J1/CN3

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-CN3

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-



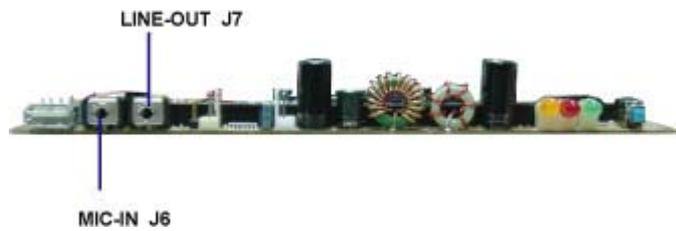
3-12 Audio Port Connector

The CV860A 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	+5V
2	KEY
3	IRRX
4	GND
5	IRTX

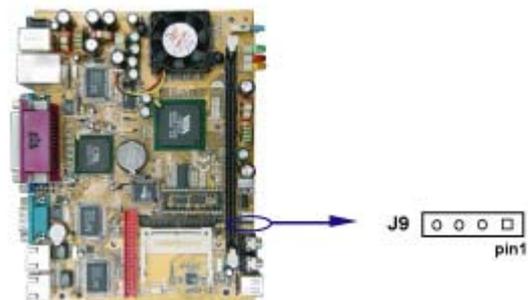


J6 Jack-----MIC-IN

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



3-13 DC 12V IN and DC out

The CV860A 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.

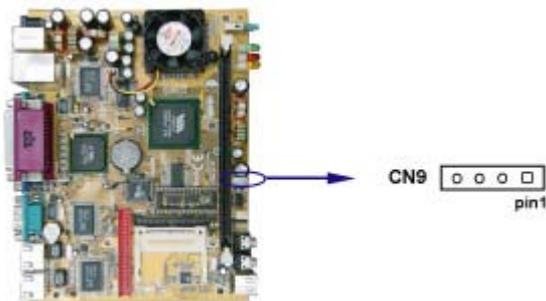
CN4 ----- DC 12V IN for 2.54mm Power connector

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



CN9 ----DC OUT for 2.54 mm Power connector

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



3-14 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 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 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 to enter Setup

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		Item Help
Standard CMOS Features		
Date (mm:dd:yy)	Thu, Jan, 8 2002	
Time (hh:mm:ss)	13 : 45 : 03	
IDE Primary Master	Press Enter None	Menu Level >
IDE Primary Slave	Press Enter None	
IDE Secondary Master	Press Enter None	Change the day, moth,
IDE Secondary Slave	Press Enter None	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		Item Help
Virus Warning	[Disabled]	
CPU Internal Cache	[Enabled]	
External Cache	[Enabled]	Menu Level > 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 enabled copies Video BIOS to shadow RAM improves performance
CPU L2 Cache ECC Checking	[Enabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[USB-FDD]	
Second Boot Device	[USB-CDROM]	
Third Boot Device	[HDD-0]	
Boot Other Device	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Normal]	
Typeomatic Rate Setting	[Disabled]	
Typeomatic Rate (Chars/Sec)	[6]	
Typeomatic Delay (Msec)	[250]	
Security Option	[Setup]	
OS Select For DRAM > 64MB	[Non -OS2]	
Report No FDD For WIN 95	[No]	
Video BIOS Shadow	[Enabled]	
C8000-CBFFF Shadow	[Disabled]	
CC000-CFFFF Shadow	[Disabled]	
D0000-D3FFF Shadow	[Disabled]	
D4000-D7FFF Shadow	[Disabled]	
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 someone 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. 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 CLR]	Item Help
DRAM Timing by SPD	[Enabled]	
: SDRAM Cycle Length	3	Menu Level >>
: Bank Interleave	Disabled	
Memory Hole	[Disabled]	
P2C/C2P Concurrency	[Enabled]	
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 <input type="checkbox"/>	[Disabled] <input type="checkbox"/>	
! ↓ → ←: 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.

4-7 Integrated Peripherals

Phoenix-AwardBIOS CMOS Setup Utility

Integrated Peripherals

OnChip IDE Channel0	[Enabled]	Item Help
OnChip IDE Channel1	[Enabled]	
IDE Prefetch Mode	[Enabled]	Menu Level >
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]	
Init Display First	[PCI Slot]	
IDE HDD Block Mode	[Enabled]	
Onboard FDD Controller	[Enabled]	
Onboard Serial Port 1	[Auto]	
Onboard Serial Port 2	[Auto]	
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 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		

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

Init 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]	Item Help	
> Power Management	[Press Enter]		
ACPI Suspend Type	[S1(POS)]	Menu Level >	
PM Control By APM	[Yes]		
Video Off Option	[Suspend->Off]		
Video Off Method	[V/H SYNC+Blank]		
MODEM Use IRQ	[3]		
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]	Item Help
HDD Power Down	[Disabled]	
Doze Mode	[Disabled]	Menu Level >>
Suspend Mode	[Disabled]	
↑ ↓ → ← : 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]	Item Help
LPT & COM	[LPT/COM]	
HDD & FDD	[ON]	Menu Level >>
PCI Master	[OFF]	
Power On By PCI/LAN Card	[Disabled]	
Modem Ring Resume	[Disabled]	
RTC Alarm Resume	[Disabled]	
x Date (of Month)	0	
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

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	Item Help	
Current System Temp.	29° C/84° F		
Current CPU FAN1 Speed	5100 RPM	Menu Level >	
Current CPU FAN2 Speed	0 RPM		
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]	Item Help
Spread Spectrum [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	

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

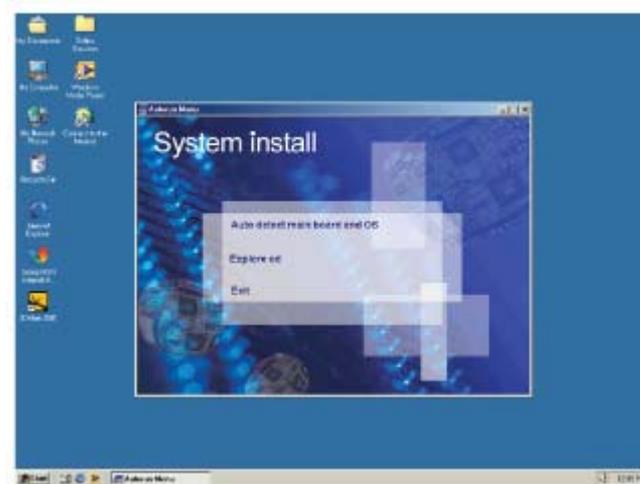
There is a SYSTEM INSTALL CD disk in the package. This CD has all the drivers you need and some free application programs and utility programs. In addition, this CD also includes an auto-detect software which can tell you which hardware is installed and which driver is needed so that your system can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

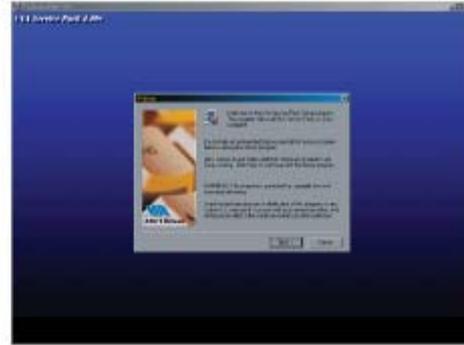
Each selection is illustrated as below:

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

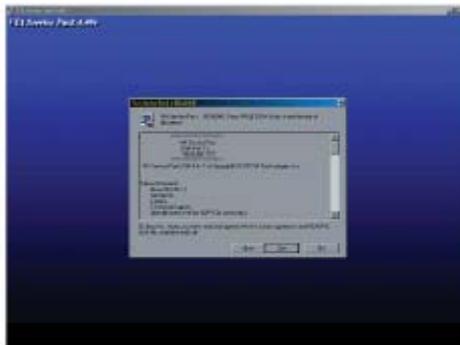
- IDE : VIA ATAPI VENDOR SUPPORT DRIVER IS USED TO FIX COMPATIBILITY ISSUE FOR IDE DEVICES.
- AGP VXD : VIA AGP VXD DRIVER IS TO BE INSTALLED. IF YOU ARE USING AN AGP VGA CARD, VIAGART.VXD WILL PROVIDE SERVICE ROUTINES TO YOUR VGA DRIVER AND INTERFACE DIRECTLY TO HARDWARE, PROVIDING FAST GRAPHIC ACCESS.
- IRQ ROUTING : VIA PCI IRQ MINIPOINT 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.



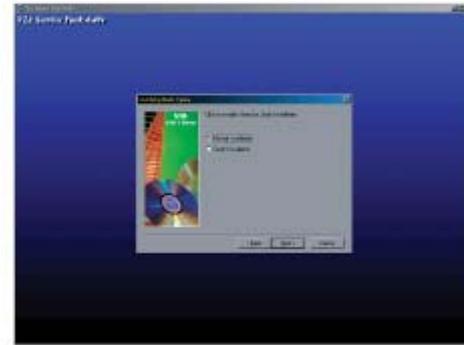
1. Click VIA 4 IN 1 when System Install MENU appears.



2. Click NEXT when VIA Service Pack Wizard appears.



3. This is to announce the Copy Right. Click NEXT.



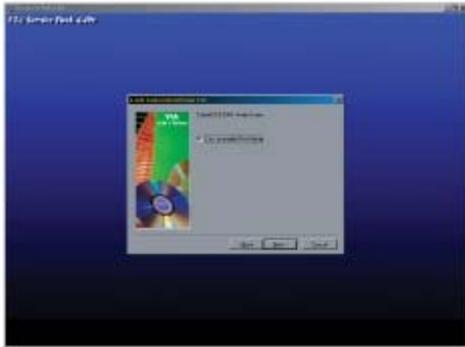
4. Click to enable Normal or Quick install. Click NEXT.



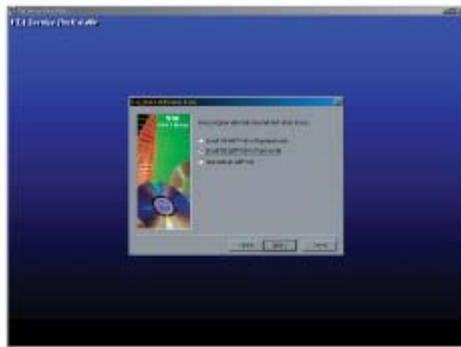
5. Choose all the drivers. Click NEXT.



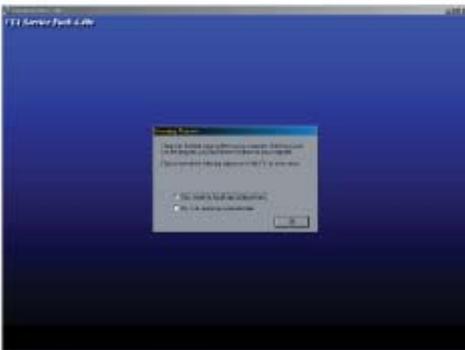
6. Click NEXT to install ATAPI Vendor Support Driver.



7. Click NEXT to choose Enabled DMA Mode.



8. Click NEXT to install VIA AGP VXD Driver.



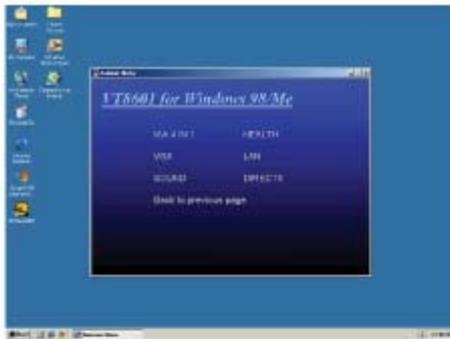
9. Click Finish to restart computer.

NOTE: SYSTEM INSTALL will auto detect file path

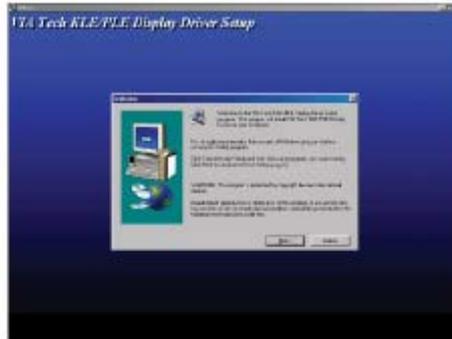
X:\driver\VIA\Driver\setup.exe

This driver supports WINDOWS 95\98\98SE\NT4.0\2000\XP

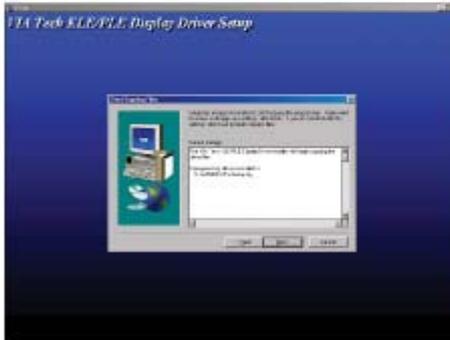
5-2 VGA INSTALL VIA 8601 VGA Driver



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

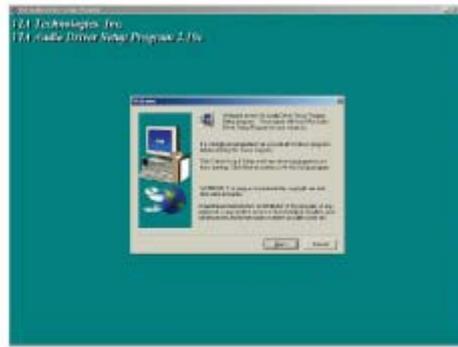
For WINDOWS 2000

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

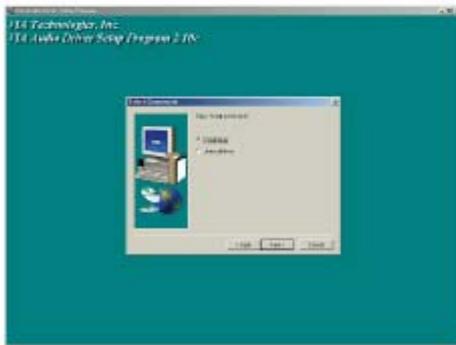
5-3 SOUND Install ALC Audio Codec Driver for VIA



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

5-4 PC-HEALTH Install VIA Hardware Monitor Driver



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

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 CV860A from our web site to your boot disc.

STEP 4. Insert your boot disc into A:

Start the computer and type "Awdflash A:\CV860Axxx.BIN/SN/PY/CC/R"
CV860Axxx.BIN is the file name of the latest BIOS. It may be CV860AA1.BIN or CV860AB2.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
DRAM	256MB SDRAM (KingStone)
VGA	VT8601A (1024*768*32) - on chip
Storage Driver	CF 64MB (Toshiba); DOC 16MB (M-System)
BIOS	Award Optimal default
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-RO	CF card	HD 2.5"
2-Default	HDD-0	HDD-3	--	--	*CF card	HD 2.5"
3	HDD-1	HDD-3	--	--	CF card	*HD 2.5"
4	HDD-1	HDD-3	HD 3.5"	CD-RO	*CF card	HD 2.5"
5	HDD-2	HDD-3	HD 3.5"	CD-RO	CF card	*HD 2.5"
6	HDD-2	HDD-3	HD 3.5"	HD 3.5"	*CF card	HD 2.5"
7	HDD-3	HDD-3	HD 3.5"	HD 3.5"	CF card	*HD 2.5"
8	USB-FD	HDD-3	HD 3.5"	HD 3.5"	CF card	*HD 2.5"
9	CD-RO	HDD-3	*HD 3.5"	CD-RO	CF card	HD 2.5"
10	CD-RO	HDD-1	HD 3.5"	CD-RO	*CF card	HD 2.5"
11	USB-FD	HDD-2	HD 3.5"	CD-RO	CF card	*HD 2.5"

*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]	
Primary Master UDMA	[Auto]	
Primary Slave UDMA	[Auto]	
Secondary Master UDMA	[Auto]	
Secondary Slave UDMA	[Auto]	Menu Level >
Init Display First	[PCI Slot]	
IDE HDD Block Mode	[Enabled]	
Onboard FDC 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