

USER'S MANUAL

PPC-7360

VIA Eden Low Power
10.4" Panel PC System

PPC-7360 M2

PPC-7360 Panel PC System

With LCD / Touch screen

OPERATION MANUAL

COPYRIGHT NOTICE

This operation manual is meant to assist users in installing and setting up the system. The information contained in this document is subject to change without prior any notice.

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ACKNOWLEDGEMENTS

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CE NOTICE

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

WARNING! Some internal parts of the system may have high electrical voltage. And therefore we strongly recommend that qualified engineers can open and disassemble the system.

The LCD and touch screen are fragile, please handle them with extra care.

* All information contained in this document is subject to change without prior notice.

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INTRODUCTION

CHAPTER

1

This chapter gives you the information for PPC-7360. It also outlines the System specifications.

Section includes:

- About This Manual
- Case Illustration
- System Specifications
- Safety precautions

Experienced users can skip to chapter 2 on page 2-1 for a Quick Start.

1-1. ABOUT THIS MANUAL

Thank you for purchasing our Panel PC. It is an updated system designed to be comparable with the highest performance of IBM AT personal computers. It provides faster processing speed, greater expandability, and can handle more tasks. This manual is designed to assist you on how to make the proper installation to set up the system. It contains five chapters. The user can use this manual for configuration according to the following chapters :

Chapter 1 Introduction

This chapter introduces you to the background of this manual, illustration of the case, and the specifications for this system. The final page of this chapter indicates some safety reminders on how to take care of your system.

Chapter 2 System Configuration

This chapter outlines the Prox-7360 components' locations and their functions. In the end of this chapter, you will learn how to set jumper and how to configure the system for your own needs.

Chapter 3 Software Utilities

This chapter contains helpful information for proper installations of the VGA utility, LAN utility, Sound utility and Flash BIOS update. It also describes the function of the Watchdog Timer.

Chapter 4 Award BIOS Setup

This chapter indicates on how to set up the BIOS configurations.

Appendix A System Assembly

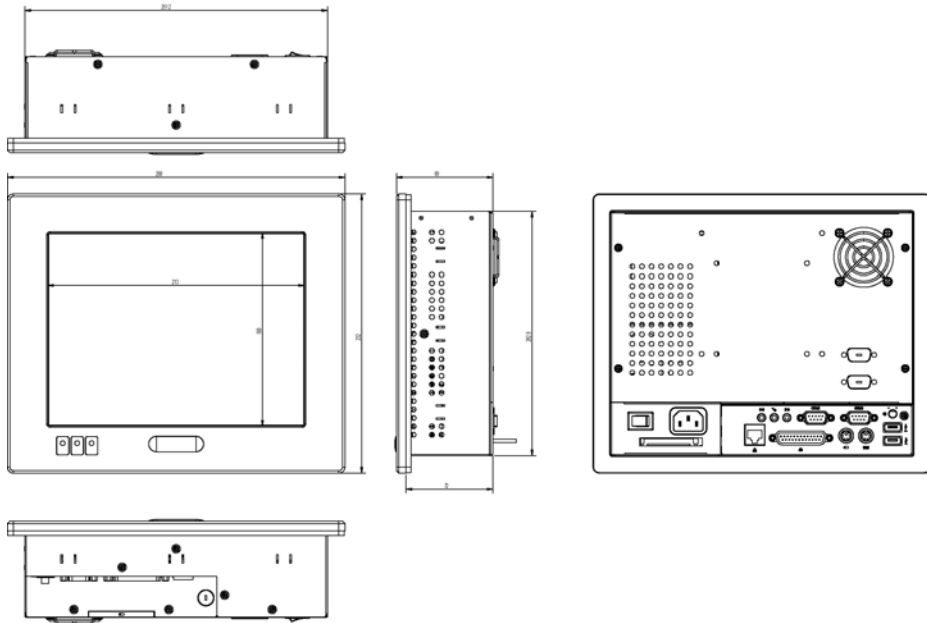
This section gives you the exploded diagram for the whole system unit.

Appendix B Technical Summary

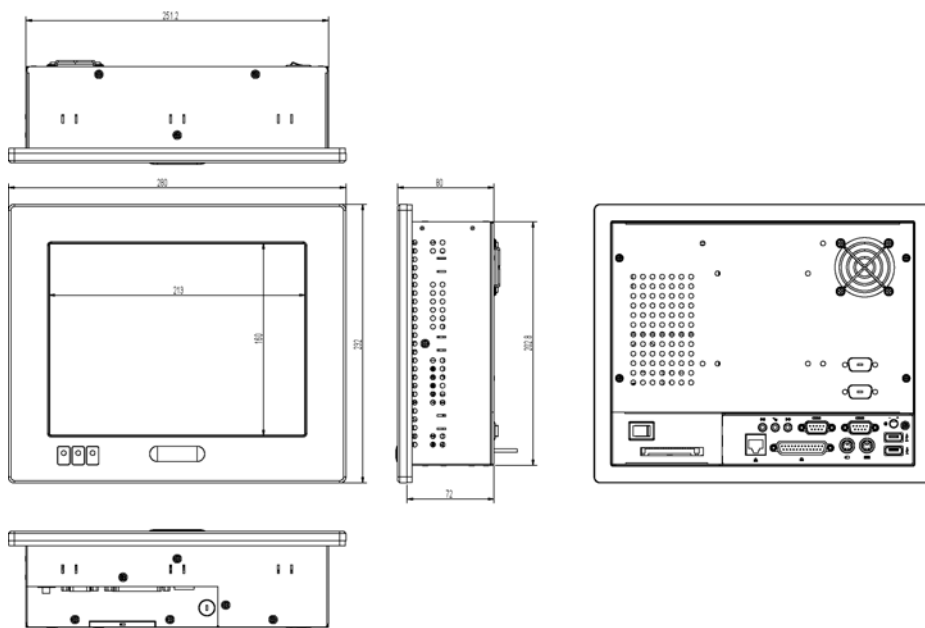
This section gives you the information about the Technical maps.

1-2. CASE ILLUSTRATION

AC Power with Compact Flash



DC Power with Compact Flash



1-3. SYSTEM SPECIFICATIONS

MAINBOARD (PROX-7360)

- **CPU TYPE:**
VIA Eden 400/733M processors
Auto detect voltage regulator.
- **CHIPSET:**
VIA VT8606+ VT82C686B
- **MEMORY :**
Up to 512 SDRAM
One 168-pin DIMM sockets on board.
- **CACHE :**
Built-in CPU(128/256KB Cache).
- **REAL-TIME CLOCK :**
CR2023 battery backed CMOS RAM
Hardware implementation to indicate century rollover.
- **BIOS :**
Phoenix-Award Flash BIOS for plug & play function.
Memory size with 2MB and with VGA BIOS.
Support S I/O Setup.
- **KEYBOARD CONNECTOR :**
Mini DIN connector.
Supports PC/AT Keyboard.
- **MOUSE CONNECTOR :**
Mini DIN connector.
Supports PS/2 Mouse.
- **BUS SUPPORT :**
One PC/104, One PC/104+
One Compact Flash Bus (for secondary IDE_based)

● **DISPLAY :**

1. Integrated graphic in VT8606
2. Support 16 pin box-header for VGA connector
3. Support 18 bit LVDS connector
4. Support 3.3V/5V/12V LVDS panel power selection
5. Support 12V panel backlight

● **WATCHDOG :**

I / O port 443H to Enable watchdog.

I / O port 441H to Disable watchdog.

Selectable for NMI or Reset function.

Time-out timing select 0 / 8 / 16 / 24 / 32 / 40 / 48 / 56 / 64 / 72 / 80 / 88 / 96 / 104 / 112 / 120 sec +/- 25%.

● **IDE INTERFACE :**

1. One IDE port support up to two IDE device
2. Support Ultra DMA 33/66/100
3. Compact Flash is connected at secondary IDE bus
4. Compact Flash master/slave mode selectable

● **FLOPPY DISK DRIVE INTERFACE :**

One 26-pin connector.

Support for slim Floppy Disk Drive.

● **SERIAL PORT :**

Four high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs.

COM1 (D-Sub Connector) for RS-232;

COM2 (D-Sub Connector) for RS-232/422/485;

COM3 (2 x 5 2.0mm Header) for RS-232 (Optional)

COM4 (2 x 5 2.0mm Header) for RS-232. (Optional)

COM1/2 contain 5V or 12V power capability with 9-pin D-sub connector on rear panel.

● **PARALLEL PORT :**

One 25-pin D-Sub connector on rear panel.

Support for SPP, ECP, EPP Function.

Bi-directional parallel port.

● **LAN ADAPTER :**

Realtek RTL8110S Chip.

RJ-45 jack onboard, Support for 10/100/1000 Base-T Ethernet.

Support Wake-On-LAN function.

● **USB CONNECTOR :**

2 USB ports on rear panel, 2 internal USB ports on board. Internal USB ports use 2.0 pitch box-header for connection. All USB ports support USB 1.1 standard.

● **SOUND :**

VT1612A, AC' 97 Codec. Another internal box-header (2.0 pitch) supports an internal speaker.

Interface: Line_IN, Line_OUT, MIC_IN

● **HARDWARE MONITORING FUNCTION :**

Monitor CPU Voltage, CPU Temperature.

● **LED INDICATOR :**

Power LED.

HDD LED.

LAN LED.

● **DMA CONTROLLER :**

82C37 x 2

● **DMA CHANNELS :**

7

● **INTERRUPT CONTROLLERS :**

82C59 x 2

● **INTERRUPT LEVELS :**

15

LCD PANEL

TFT color LCD is manufactured by using very high brightness technology. Some sequential pixels may not light or may light always, but this is not a failure.

- **LCD TYPE :**

LCD Panel 10": Priority source - AU (LVDS) or similar model.

- **PIXEL PITCH :**

According to the supplier's LCD specification.

- **BRIGHTNESS :**

According to the supplier's LCD specification.

- **CONTRAST RATIO :**

According to the supplier's LCD specification.

- **POWER CONSUMPTION :**

According to the supplier's LCD specification.

- **VIEWING ANGLE :**

According to the supplier's LCD specification.

- **RESPONSE TIME :**

According to the supplier's LCD specification.

- **COLOR :**

According to the supplier's LCD specification.

- **LCD MTBF :**

According to the supplier's LCD specification.

- **BACKLIGHT MTBF :**

According to the supplier's LCD specification.

- **DIMENSION :**

According to the supplier's LCD specification.

TOUCH SCREEN : (OPTIONAL)

Vendor	ACCU
Type	Resistive
Static Load	500g (30 cm^2 , 30 Sec)
Hardness	3H
Transparency	82%
Write Life	10,000,000 Times
Knock Life	35,000,000 Times
Chattering Time	10 ms
Input Voltage	5V
Wire	5 Wire

GENERAL INFORMATION**● POWER SUPPLY :**

DC 15V ~ 24V input, ATX 80W 10 Pin output
(Or AC 100V ~240V, 50~60Hz input, Protech ATX 100W (Built-in))

● DRIVE BAYS (Optional) :

1x Slim HDD
1x Compact Flash Type-II Slot (IDE, On Board)
1x Compact Flash Type-II Slot (USB, Support Hot Swap, Optional)

● CONSTRUCTION :

Electro Galvanized steel chassis.
Aluminium front bezel.

● DIMENSIONS :

280mm x 232mm x 80mm (11.02" x 9.13" x 3.15")

● NET WEIGHT :

3.9kg

1-4. SAFETY AND NOTIFICATION

- * Please remember to put a Mylar below the hard disk drive while installing it.*
- * Please note that WinCE does not support for external CF card.*

Following messages are safety reminders on how to protect your systems from damages. And thus, helps you lengthen the life cycle of the system.

1. Check the Line Voltage

- a. The operating voltage for the power supply should cover the range of DC 15V~24V, otherwise the system may be damaged.

2. Environmental Conditions

- a. Place your PPC-7360 on a sturdy, level surface. Be sure to allow enough room on each side to have easy access.
- b. Avoid extremely hot or cold places to install your PPC.
- c. Avoid exposure to sunlight for a long period of time (for example in a closed car in summer time. Also avoid the system from any heating device.). Or do not use PPC-7360 when it's been left outdoors in a cold winter day.
- d. Bear in mind that the operating ambient temperature is from 0°C up to +45°C.
- e. Avoid moving the system rapidly from a hot place to a cold place or vice versa because condensation may come from inside of the system.
- f. Place PPC-7360 against strong vibrations, which may cause hard disk failure.
- g. Do not place the system too close to any radio active device. Radioactive device may cause interference.

3. Handling

- a. Avoid putting heavy objects on top of the system.
- b. Do not turn the system upside down. This may cause the floppy drive and hard drive to mal-function.
- c. Do not remove the diskette from the Floppy drive while the light is still on. If you remove the diskette while the light is on, you may damage the information on the diskette.

4. Good Care

- a. When the outside of the case is stained, remove the stain with neutral washing agent with a dry cloth.
- b. Never use strong agents such as benzene and thinner to clean the system.
- c. If heavy stains are present, moisten a cloth with diluted neutral washing agent or with alcohol and then wipe thoroughly with a dry cloth.
- d. If dust has been accumulated on the outside, remove it by using a special made vacuum cleaner for computers.

SYSTEM CONFIGURATION

CHAPTER

2

Helpful information that describes the jumper & connector settings, and component locations.

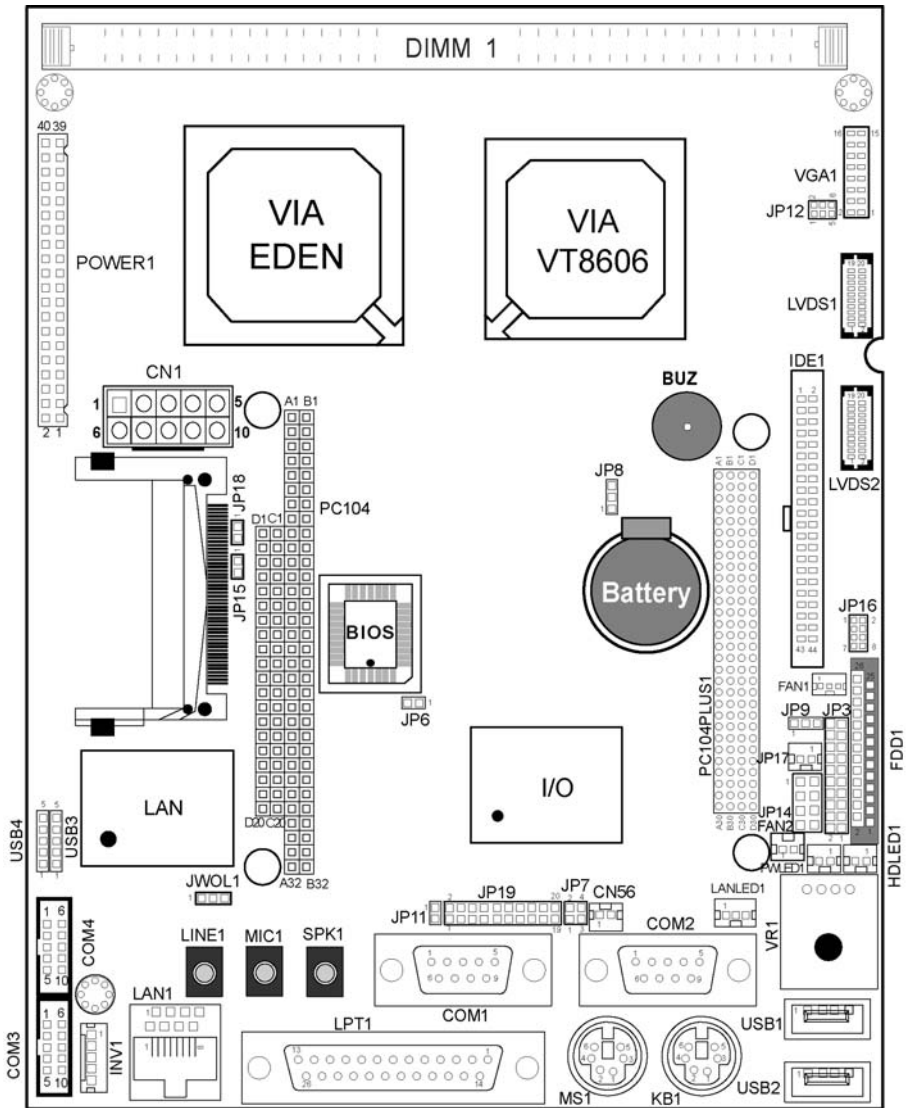
Section includes:

- Jumper & Connector Quick Reference Table
- Component Locations
- Configuration and Jumper settings
- Connector Pin Assignments

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

COM Port Connector	COM1, COM2 COM3, COM4
COM Port RI & Voltage Selection	JP19
RS232/422/485 (COM2) Selection	JP3
VGA Connector	VGA1
LVDS Connector	LVDS1, LVDS2
Brightness Voltage Selection	JP9
LVDS Voltage Selection	JP12
Power Connector	CN1
Floppy Disk Drive Connector	FDD1
Hard Disk Drive Connector	IDE1
Printer Connector	LPT1
LAN Connector	LAN1
LAN LED Connector	LANLED1
Keyboard Connector	KB1
PS/2 Mouse Connector	MS1
Sound Connector	LINE1, MIC1, SPK1
Onboard Audio Selection	JP11
Reset Connector Switch	JP17
HDD LED Connector	HDLED1
Power Button	CN56
External Buzzer Connector	JP14 (1-2)
External SMI Connector	JP14 (7-8)
CMOS Function Selection	JP8
USB Connector	USB1, USB2, USB3, USB4
Reset/NMI Selection	JP7
Wake-On-LAN Connector	JWOL1
Power LED Connector	PWLED1
Memory Installation	DIMM1
AT/ATX Power Selection	JP14 (3-6), JP18
Compact Flash Master/Slave Selection	JP15
IRQ12 Release Selection	JP6
LVDS Panel Resolution Selection	JP16
Inverter Connector	INV1
IDE Power Module	POWER1
Compact Flash Connector	CF1
PC104 Connector	PC104
PC104+ Connector	PC104PLUS1
CPU Fan Connector	FAN1
System Fan Connector	FAN2

2-2. COMPONENT LOCATIONS



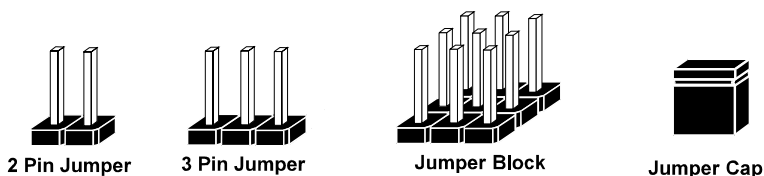
PPC-7360 Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting the jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and by using a small plastic "cap", Also known as the jumper cap (with a metal contact inside), you are able to connect the pins. So you can set-up your hardware configuration by "opening" or "closing" pins.

The jumper can be combined into sets that called jumper blocks. When the jumpers are all in the block, you have to put them together to set up the hardware configuration. The figure below shows how this looks like.

JUMPERS AND CAPS

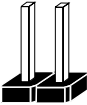


If a jumper has three pins for example, labelled PIN1, PIN2, and PIN3. You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagrams look and what they represent.

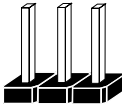
JUMPER DIAGRAMS



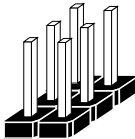
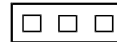
Jumper Cap looks like this



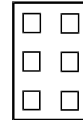
2 pin Jumper looks like this



3 pin Jumper looks like this



Jumper Block looks like this



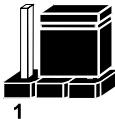
JUMPER SETTINGS



2 pin Jumper closed(enabled)
looks like this



1



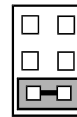
3 pin Jumper
2-3 pin closed(enabled)
looks like this



1



Jumper Block
1-2 pin closed(enabled)
looks like this



1 2

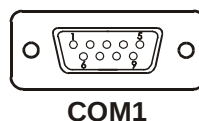
2-4. COM PORT CONNECTOR

There are four COM ports enhanced in this board namely: COM1, COM2, COM3 and COM4. COM1, COM3 and COM4 are fixed for RS-232, while COM2 is selectable for RS-232/422/485.

COM1 : COM1 Connector

The COM1 Connector assignments are as follows :

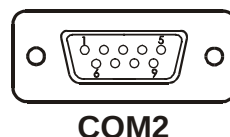
PIN	ASSIGNMENT
1	DCD1
2	RX1
3	TX1
4	DTR1
5	GND
6	DSR1
7	RTS1
8	CTS1
9	RI1



COM2 : COM2 Connector

The COM2 Connector assignments are as follows :

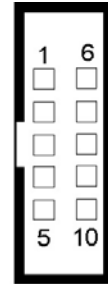
PIN	ASSIGNMENT		
	RS-232	RS-422	RS-485
1	DCD2	TX-	TX-
2	RX2	TX+	TX+
3	TX2	RX+	RX+
4	DTR2	RX-	RX-
5	GND	GND	GND
6	DSR2	RTS-	NC
7	RTS2	RTS+	NC
8	CTS2	CTS+	NC
9	RI2	CTS-	NC



COM3 : COM3 Connector

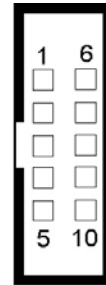
The pin assignments are as follows :

PIN	ASSIGNMENT
1	DCD3
2	RX3
3	TX3
4	DTR3
5	GND
6	DSR3
7	RTS3
8	CTS3
9	RI3
10	NC

**COM3****COM4 : COM4 Connector**

The pin assignments are as follows :

PIN	ASSIGNMENT
1	DCD4
2	RX4
3	TX4
4	DTR4
5	GND
6	DSR4
7	RTS4
8	CTS4
9	RI4
10	NC

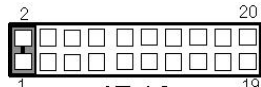
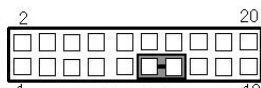
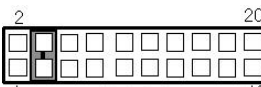
**COM4**

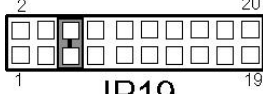
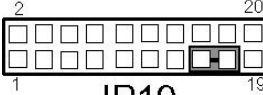
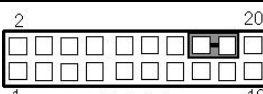
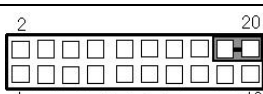
 All COM port's pin 9 is selectable for RI, +5V or +12V. For more information, please refer to our “2-5 COM RI and Voltage Selection”.

2-5. COM PORT RI & VOLTAGE SELECTION

JP19 : COM1, COM2, COM3, and COM4 RI & Voltage Selection

The selections are as follows:

SELECTION		JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
COM1	RI (default)	1-2	 JP19
	5V	11-13	 JP19
	12V	9-11	 JP19
COM2	RI (default)	3-4	 JP19
	5V	12-14	 JP19
	12V	10-12	 JP19

COM3	RI (default)	5-6	 JP19
	5V	15-17	 JP19
	12V	17-19	 JP19
COM4	RI (default)	7-8	 JP19
	5V	16-18	 JP19
	12V	18-20	 JP19

2-6. RS232/422/485 (COM2) SELECTION

JP3 : RS-232/422/485 (COM2) Selection

COM2 is selectable for RS-232, 422, 485 function.

The jumper settings are as follows :

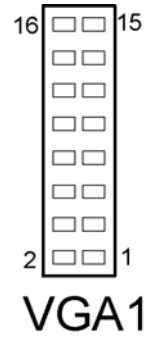
COM 2 FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
RS-232 (default)	Open	JP3
RS-422	1-2, 5-6, 7-8, 9-10 11-12, 13-14, 15-16 17-18, 19-20	JP3
RS-485	1-3, 4-6, 7-8, 9-10 11-12, 13-14, 15-16 17-18, 19-20	JP3

2-7. VGA CONNECTOR

VGA : VGA Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	VCC
10	GND
11	NC
12	VGA IIC DATA
13	HSYNC
14	VSYNC
15	VGA IIC CLK
16	NC

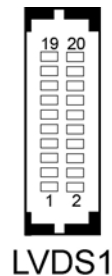


2-8. LVDS CONNECTOR

LVDS1 : LVDS Connector

The pin assignments are as follows :

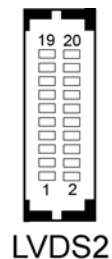
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	12	YCM
2	GND	13	GND
3	Y2P	14	GND
4	NC	15	Y0P
5	Y2M	16	GND
6	NC	17	Y0M
7	GND	18	LVDSVCC
8	GND	19	GND
9	Y1P	20	LVDSVCC
10	YCP		
11	Y1M		



LVDS2 : LVDS Connector

The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	12	ZCM
2	GND	13	GND
3	Z2P	14	GND
4	NC	15	Z0P
5	Z2M	16	GND
6	NC	17	Z0M
7	GND	18	LVDSVCC
8	GND	19	GND
9	Z1P	20	LVDSVCC
10	ZCP		
11	Z1M		



2-9. BRIGHTNESS VOLTAGE SELECTION

JP9: Brightness Voltage Selection

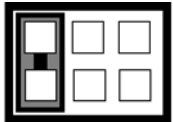
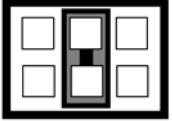
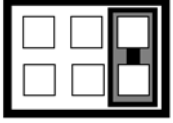
The selections are as follows :

SELECTION	JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
5V (default)	2-3	1  JP9
2.5V	1-2	1  JP9

2-10. LVDS VOLTAGE SELECTION

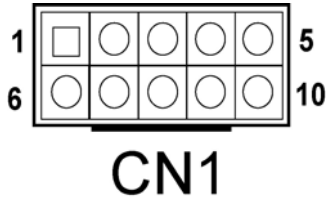
JP12: LCD Voltage Selection

The selections are as follows :

SELECTION	JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
12V	1-2	 JP12
3.3V (default)	3-4	 JP12
5V	5-6	 JP12

2-11. POWER CONNECTOR

CN1: Power Connector



The pin assignments are as follows :

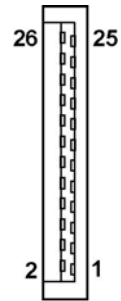
PIN	ASSIGNMENT
1	5V
2	5V
3	GND
4	GND
5	12V
6	5VSB
7	5V
8	GND
9	PS_ON
10	-12V

2-12. FLOPPY DISK DRIVE CONNECTOR

FDD1 : Floppy Disk Drive Connector

The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
2	INDEXJ	1	5V
4	DRVAJ	3	5V
6	DSKCHGJ	5	5V
8	NC	7	NC
10	MOTEAJ	9	NC
12	FDIRJ	11	NC
14	STEPJ	13	DENSELJ
16	WDATAJ	15	NC
18	WGATEJ	17	GND
20	TK00J	19	GND
22	WPTJ	21	GND
24	RDATAJ	23	GND
26	SIDE1J	25	GND



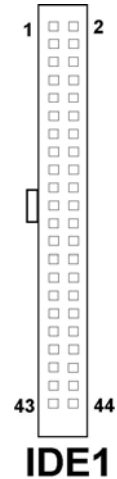
FDD1

2-13. HARD DISK DRIVE CONNECTOR

IDE1 : Hard Disk Drive Connector

The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	IDERSTJ	2	GND
3	PDD7	4	PDD8
5	PDD6	6	PDD9
7	PDD5	8	PDD10
9	PDD4	10	PDD11
11	PDD3	12	PDD12
13	PDD2	14	PDD13
15	PDD1	16	PDD14
17	PDD0	18	PDD15
19	GND	20	NC
21	DDREQA	22	GND
23	DIOWAJ	24	GND
25	DIORAJ	26	GND
27	HDRDYA	28	PULL LOW
29	DDACKAJ	30	GND
31	IDE_IRQ14	32	NC
33	PDA1	34	PD_80P
35	PDA0	36	PDA2
37	PDCSJ1	38	PDCSJ3
39	HDLEDJ1	40	GND
41	5V	42	5V
43	GND	44	NC

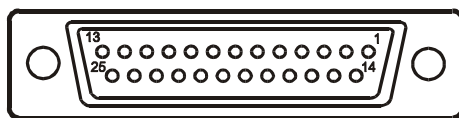


2-14. PRINTER CONNECTOR

LPT1 : Printer Connector

As to link the Printer to the card, you need a cable to connect both DB25 connector and parallel port.

The pin assignments are as follows :



LPT1

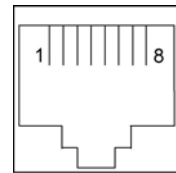
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STROBE	14	AFDJ
2	PPD0	15	ERRORJ
3	PPD1	16	INITJ
4	PPD2	17	SLINJ
5	PPD3	18	GND
6	PPD4	19	GND
7	PPD5	20	GND
8	PPD6	21	GND
9	PPD7	22	GND
10	ACKJ	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT		

2-15. LAN CONNECTOR

LAN1: LAN Connector.

The pin assignment is as follows :

PIN	ASSIGNMENT
1	MDI_0P
2	MDI_0N
3	MDI_1P
4	MDI_2P
5	MDI_2N
6	MDI_1N
7	MDI_3P
8	MDI_3N



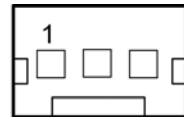
LAN1

2-16. LAN LED CONNECTOR

LANLED1 : LAN LED Connector

The pin assignment is as follows :

PIN	ASSIGNMENT
1	LED100
2	CONTROL
3	LED1000



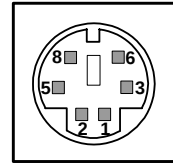
LANLED1

2-17. KEYBOARD CONNECTOR

KB1 : PC/AT Keyboard Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	KB DATA
2	NC
3	GND
5	5VSB
6	KB CLK
8	NC



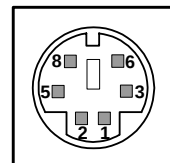
KB1

2-18. PS/2 MOUSE CONNECTOR

MS1 : PS/2 Mouse Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	MS DATA
2	NC
3	GND
5	5VSB
6	MS CLK
8	NC



MS1

2-19. SOUND CONNECTOR

The sound connector is composed of the Microphone (MIC1), Line-Out (SPK1), and Line-In (LINE1).

LINE1 : Line-In Connector

The pin assignment is as follows :

PIN	ASSIGNMENT
1	GND
2	LINE_L
3	LINE_R



LINE1

MIC1 : Microphone Connector

The pin assignment is as follows :

PIN	ASSIGNMENT
1	GND
2	MIC_IN1
3	MIC_IN2



MIC1

SPK1 : Line-Out Connector

The pin assignment is as follows :

PIN	ASSIGNMENT
1	GND
2	Line-out-L
3	Line-out-R

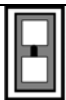
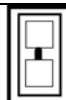


SPK1

2-20. ONBOARD AUDIO SELECTION

JP11: Onboard Audio Selection

The selections are as follows:

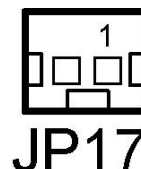
FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
On (default)	1-2	 JP11
Off	open	 JP11

2-21. RESET CONNECTOR SWITCH

JP17 : Reset Connector Switch.

The pin assignment is as follows :

PIN	ASSIGNMENT
1	GND
2	RST SW

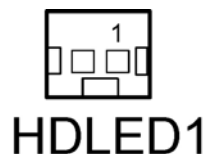


2-22. HDD LED CONNECTOR

HDLED1 : HDD LED Connector

The pin assignment is as follows :

PIN	ASSIGNMENT
1	HD_LED+
2	HD_LED-

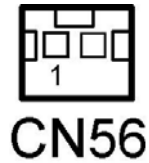


2-23. POWER BUTTON

CN56 : Power Button

The pin assignments are as follows:

PIN	ASSIGNMENT
1	PWR_BN1
2	PWR_BN2

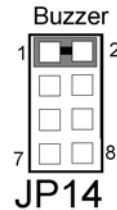


2-24. EXTERNAL BUZZER CONNECTOR

JP14 (1-2) : External Buzzer Connector.

The pin assignments are as follows :

PIN	ASSIGNMENT
1	E_BUZ_PWR
2	E_BUZ

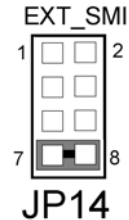


2-25. EXTERNAL SMI CONNECTOR

JP14 (7-8) : External SMI Connector.

The pin assignments are as follows :

PIN	ASSIGNMENT
7	GND
8	EXTSMIJ



2-26. CMOS FUNCTION SELECTION

JP8: CMOS Function Selection

The selections are as follows:

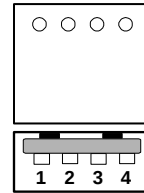
FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
NORMAL (default)	1-2	 JP8
CLEAR CMOS	2-3	 JP8

 To clear CMOS data, user must power-off the computer and set the jumper to "Clear CMOS" as illustrated above. After five to six seconds, set the jumper back to "Normal" and power-on the computer.

2-27. UNIVERSAL SERIAL BUS CONNECTOR

USB1: Universal Serial Bus Connector.
The pin assignments are as follows :

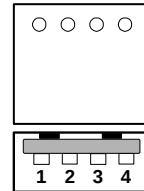
PIN	ASSIGNMENT
1	VCCUSB0
2	USB0N_R
3	USB0P_R
4	GND



USB1

USB2: Universal Serial Bus Connector.
The pin assignments are as follows :

PIN	ASSIGNMENT
1	VCCUSB1
2	USB1N_R
3	USB1P_R
4	GND



USB2

USB3 : Universal Serial Bus Connector.
The pin assignments are as follows :

PIN	ASSIGNMENT
1	VCCUSB2
2	USB2N_R
3	USB2P_R
4	GND
5	GND

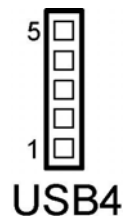


USB3

USB4 : Universal Serial Bus Connector.

The pin assignments are as follows :

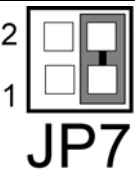
PIN	ASSIGNMENT
1	VCCUSB3
2	USB3N_R
3	USB3P_R
4	GND
5	GND



2-28. RESET / NMI SELECTION

JP7 : Reset/NMI/Clear Watchdog Selection

The selections are as follows:

FUNCTION	JUMPER SETTING	JUMPER ILLUSTRATION
Reset (default)	1-2	
NMI	3-4	

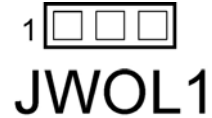
 User may select to use the Reset or NMI watchdog. NMI, also known as Non-Maskable Interrupt, is used for serious conditions that demand the processor's immediate attention, it cannot be ignored by the system unless it is shut off specifically. To clear NMI command, user should short the "Clear Watchdog" pin via push button.

2-29. WAKE-ON-LAN CONNECTOR

JWOL1 : Wake-On-LAN Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	+5VSB
2	GND
3	WOL1

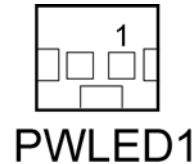


2-30. POWER LED CONNECTOR

PWLED1: Power LED Connector.

The pin assignments are as follows :

PIN	ASSIGNMENT
1	PW_LED+
2	GND



2-31. MEMORY INSTALLATION

This system is enhanced with 1 DDR DRAM banks, which support up to 1G.

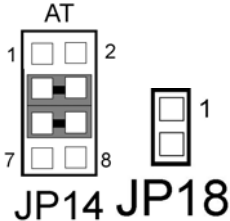
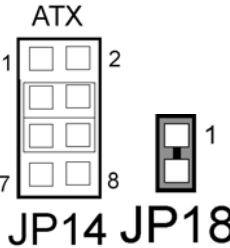
DRAM BANK CONFIGURATION

DIMM 1	TOTAL MEMORY
128M	128MB
256M	256MB
512M	512MB
1G	1G

2-32. AT/ATX POWER SELECTION

JP14 (3-6) : AT/ATX Power Selection

The selections are as follows:

FUNCTION	JUMPER SETTING		JUMPER ILLUSTRATION
	JP14 (3-6)	JP18	
AT	3-4, 5-6	Open	 AT JP14 JP18
ATX (default)	open	1-2	 ATX JP14 JP18

2-33. COMPACT FLASH MASTER/SLAVE SELECTION

JP15 : Compact Flash Master/Slave Selection

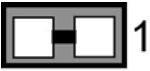
The selections are as follows:

FUNCTION	JUMPER SETTING	JUMPER ILLUSTRATION
Master (default)	1-2	 JP15
Slave	open	 JP15

2-34. IRQ12 RELEASE SELECTION

JP6 : IRQ12 Release Selection.

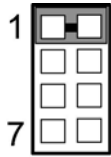
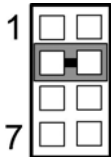
The selections are as follows:

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
IRQ12 Release	Closed	 JP6
PS/2 Mouse (default)	Open	 JP6

2-35. LVDS PANEL RESOLUTION SELECTION

JP16 : LVDS Panel Resolution Selection.

The selections are as follows:

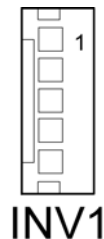
FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
800 x 600 (10.4") (default)	1-2	 JP16
1024 x 768 (15")	3-4	 JP16

2-36. INVERTER CONNECTOR

INV1: Inverter Connector.

The pin assignments are as follows :

PIN	ASSIGNMENT
1	VCC12
2	GND
3	BRCTR
4	NC
5	ENVEE (Inverter backlight On/Off control signal)

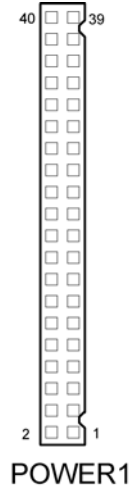


2-37. POWER MODULE

POWER1 : Power Module.

The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	+5V	2	5VSB
3	+5V	4	5VSB
5	+5V	6	5VSB
7	+5V	8	+5V
9	+5V	10	+5V
11	+5V	12	+5V
13	GND	14	GND
15	GND	16	GND
17	GND	18	GND
19	PS-ON	20	GND
21	NC	22	GND
23	NC	24	GND
25	-12V	26	+12V
27	-12V	28	+12V
29	-12V	30	+12V
31	NC	32	NC
33	NC	34	NC
35	NC	36	NC
37	NC	38	NC
39	NC	40	NC



2-38. COMPACT FLASH CONNECTOR

CF1 : Compact Flash Connector.

The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	26	GND
2	D03	27	D11
3	D04	28	D12
4	D05	29	D13
5	D06	30	D14
6	D07	31	D15
7	CSJ1	32	CSJ3
8	GND	33	GND
9	GND	34	SDIORDJ
10	GND	35	SDIOWRJ
11	GND	36	+5V
12	GND	37	IRQ15
13	+5V	38	+5V
14	GND	39	-CSEL
15	GND	40	NC
16	GND	41	RESETJ
17	GND	42	IORDY
18	A02	43	REQ
19	A01	44	ACKJ
20	A00	45	CF_LEDJ
21	D00	46	-PDIAG
22	D01	47	D08
23	D02	48	D09
24	NC	49	D10
25	GND	50	GND

2-39. PC104 CONNECTOR

PC104 : PC104 Connector.

The pin assignments are as follows :

PIN	ASSIGNME NT	PIN	ASSIGNME NT	PIN	ASSIGNME NT	PIN	ASSIGNME NT
A1	IOCHK	B1	GND	C1	GND	D1	GND
A2	D7	B2	REST	C2	SBHEJ	D2	MEMCS16J
A3	D6	B3	+5V	C3	LA23	D3	IOCS16J
A4	D5	B4	IRQ9	C4	LA22	D4	IRQ10
A5	D4	B5	NC	C5	LA21	D5	IRQ11
A6	D3	B6	DREQ2	C6	LA20	D6	IRQ12
A7	D2	B7	-12V	C7	LA19	D7	IRQ15
A8	D1	B8	NOWS	C8	LA18	D8	IRQ14
A9	D0	B9	+12V	C9	LA17	D9	DACKJ0
A10	IOCHRDY	B10	GND	C10	MEMRJ	D10	DREQ0
A11	AEN	B11	SMEMWJ	C11	MEMWJ	D11	DACKJ5
A12	A19	B12	SMEMRJ	C12	D8	D12	DREQ5
A13	A18	B13	IOWJ	C13	D9	D13	DACKJ6
A14	A17	B14	IORJ	C14	D10	D14	DREQ6
A15	A16	B15	DACKJ3	C15	D11	D15	DACKJ7
A16	A15	B16	DREQ3	C16	D12	D16	DREQ7
A17	A14	B17	DACKJ1	C17	D13	D17	+5V
A18	A13	B18	DREQ1	C18	D14	D18	MASTERJ
A19	A12	B19	REFRESHJ	C19	D15	D19	GND
A20	A11	B20	SYSCLK	C20	NC	D20	GND
A21	A10	B21	IRQ7				
A22	A9	B22	IRQ6				
A23	A8	B23	IRQ5				
A24	A7	B24	IRQ4				
A25	A6	B25	IRQ3				
A26	A5	B26	DACKJ2				
A27	A4	B27	TC				
A28	A3	B28	BALE				
A29	A2	B29	+5V				
A30	A1	B30	OSC				
A31	A0	B31	GND				
A32	GND	B32	GND				

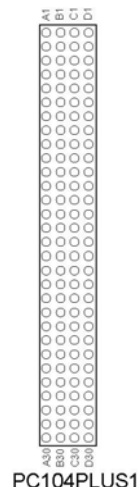
D1
 D20
 C1
 A1
 B1
 D32
 B32
 A32
 C20
 D20
 PC104

2-40. PC104+ CONNECTOR

PC104PLUS1 : PC104+ Connector.

The pin assignments are as follows :

A		B		C		D	
PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT
A1	GND	B1	SERIR	C1	+5V	D1	AD00
A2	NC	B2	AD02	C2	AD01	D2	+5V
A3	AD05	B3	GND	C3	AD04	D3	AD03
A4	CBEJ0	B4	AD07	C4	GND	D4	AD06
A5	GND	B5	AD09	C5	AD08	D5	GND
A6	AD11	B6	NC	C6	AD10	D6	M66EN
A7	AD14	B7	AD13	C7	GND	D7	AD12
A8	+3.3V	B8	CBEJ1	C8	AD15	D8	+3.3V
A9	SERRJ	B9	GND	C9	NC	D9	PAR
A10	GND	B10	PERRJ	C10	+3.3V	D10	SDONE
A11	STOPJ	B11	+3.3V	C11	LOCKJ	D11	GND
A12	+3.3V	B12	TRDYJ	C12	GND	D12	DEVSELJ
A13	FRAMEJ	B13	GND	C13	IRDYJ	D13	+3.3V
A14	GND	B14	AD16	C14	+3.3V	D14	CBEJ2
A15	AD18	B15	+3.3V	C15	AD17	D15	GND
A16	AD21	B16	AD20	C16	GND	D16	AD19
A17	+3.3V	B17	AD23	C17	AD22	D17	+3.3V
A18	IDSEL0	B18	GND	C18	IDSEL1	D18	IDSEL2
A19	AD24	B19	CBEJ3	C19	NC	D19	IDSEL3
A20	GND	B20	AD26	C20	AD25	D20	GND
A21	AD29	B21	+5V	C21	AD28	D21	AD27
A22	+5V	B22	AD30	C22	GND	D22	AD31
A23	REQJ0	B23	GND	C23	REQJ1	D23	NC
A24	GND	B24	REQJ2	C24	+5V	D24	GNTJ0
A25	GNTJ1	B25	NC	C25	GNTJ2	D25	GND
A26	+5V	B26	PCLK1	C26	GND	D26	PCLK2
A27	PCLK3	B27	+5V	C27	PCLK4	D27	GND
A28	GND	B28	INTDJ	C28	+5V	D28	RSTJ
A29	+12V	B29	INTAJ	C29	INTBJ	D29	INTCJ
A30	NC	B30	NC	C30	NC	D30	GND

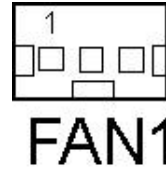


2-41. CPU FAN CONNECTOR

FAN1 : CPU Fan Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	GND
2	+12V
3	CPUFAN1



2-42. SYSTEM FAN CONNECTOR

FAN2 : System FAN Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	+5V
2	GND



SOFTWARE UTILITIES

CHAPTER

3

This chapter comprises the detailed information of VGA driver, LAN driver, and sound driver, VIA Chipset Software Installation Utility, touch screen driver, USB 2.0 driver and Flash BIOS update. It also describes how to install the watchdog timer configuration.

Section includes:

- Introduction
- VIA 4 IN1 Service Pack Driver Utility
- VGA Driver Utility
- Flash BIOS Update
- LAN Driver Utility
- Sound Driver Utility
- USB2.0 Chipset Software Installation Utility
- Touch screen Driver Utility (Optional)
- USB CF CARD Driver Utility (Optional)
- Watchdog Timer Configuration

3-1. INTRODUCTION

Enclosed with our PPC-7360 package is our driver utility, which may comes in a form of a CD ROM disc or floppy diskettes. For CD ROM disc user, you will only need some of the files contained in the CD ROM disc, please kindly refer to the following chart:

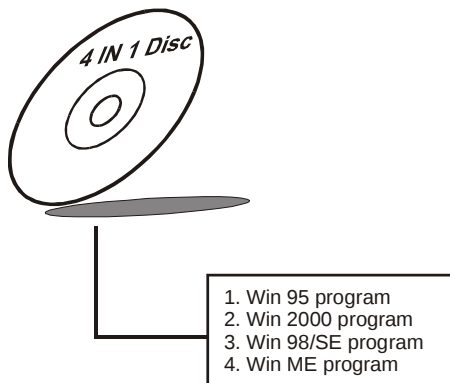
Filename (Assume that CD ROM drive is D:)	Purpose
D:\Utility\ <i>***Install this software first!</i>	VIA 4in1 Service Pack Driver Utility
D:\VGA Drv\	For VGA driver installation
D:\BIOS Flash\	For flash BIOS update
D:\ Lan Drv\	For LAN Driver installation
D:\ Sound Drv\	Analog Device VT1612A For Sound driver installation
D:\ USB2.0 Drv\	USB 2.0 Software Installation Utility For Win 98SE, 2000, ME, XP
D:\Touch Screen Drv\	For Liyi Touch screen driver
D:\ USB CF Card Drv\	For USB CF Card Driver Installation

3-2. VIA 4IN1 SERVICE PACK DRIVER

3-2-1. Introduction

The 4-in-1 drivers are a collection of periodically updated drivers that provide enhanced VIA chipset to support under Microsoft Windows. This drivers should be installed after the OS is fully installed, to improve performance, fix issues, and minimize any incompatibilities.

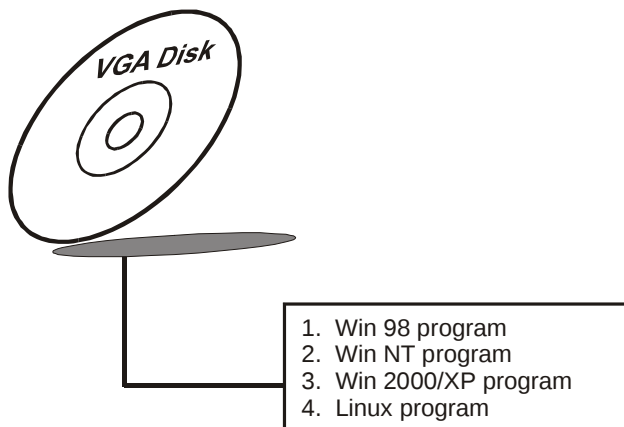
The VIA 4 In 1 driver includes four system drivers to improve the performance and maintain the stability of systems using VIA chipsets. These four drivers are: VIA Registry (INF) Driver, VIA AGP VxD driver, VIA ATAPI Vendor Support Driver and VIA PCI IRQ Miniport Driver



3-3. VGA DRIVER UTILITY

3-3-1. Introduction

The VGA interface embedded with our PPC-7360 can support a wide range of display mode, such as SVGA, STN, TFT,.....etc. You can display CRT and LCD Panel simultaneously on this board, but make sure that the modes for CRT and LCD Panel are the same. If not, only one of them can be displayed.



3-3-2. Installation of VGA Driver

1. Install VGA Driver to Windows 98/2000/XP

- (1). Place insert the Driver CD into CD ROM drive.
- (2). Under Windows 98/2000/XP system, go to the directory where VGA driver is located.
- (3). Click **Setup.exe** file for VGA driver installation.
- (4). Follow the instructions on the screen to complete the installation.
- (5). Once installation is completed, shut down the system and restart in order for the changes to take effect.

2. Install VGA driver to Windows NT 4.0

- (1). To install Driver CD to Windows NT4.0 is as you normally would. Click START, then SETTINGS, then CONTROL PANEL of the operating system.
- (2). Select the DISPLAY icon to start the DISPLAY PROPERTIES window, then choose the SETTING tab, then DISPLAY TYPE.
- (3). In the CHANGE DISPLAY TYPE window, click on the CHANGE button in the ADAPTER TYPE, this will bring up the SELECT DEVICE window.
- (4). In the CHANGE DISPLAY window, click on Have Disk. Follow the instructions appearing on the screen until you complete the whole installation.
- (5). Once installation is completed, the system must be shut down and restarted for the new drivers to take effect.

3-4. FLASH BIOS UPDATE

3-4-1. Introduction

Users of PPC-7360 can use the program “Awdflash.exe” contained in the Utility Disk for system BIOS update.

3-4-2. Installation of system BIOS

1. Copy “Awdflash.exe” from Driver Disk to Drive C.
2. Type the path to Awdflash.exe and execute the system BIOS
AWDFLASH s55xxxxx.bin
3. The screen will display the table below:

FLASH MEMORY WRITER V7.XX (C) Award Software 2001 All Rights Reserved
Flash Type - MX29F004T File Name to Program: s55xxxxx.bin
Error Message : Do You Want To Save BIOS (Y/N)

If you want to save up the original BIOS, enter "Y" and press < Enter > .
If you choose "N", the following table will appear on screen.

FLASH MEMORY WRITER V7.XX (C) Award Software 2001 All Rights Reserved
Flash Type - MX29F004T File Name to Program: s55xxxxx.bin
Error Message : Are You Sure To Program (Y/N)

Select "Y", and the BIOS will be renewed. When you are refreshing the BIOS, do not turn off or reset the system, or you will damage the BIOS. After you have completed all the programming, the screen displays the table below:

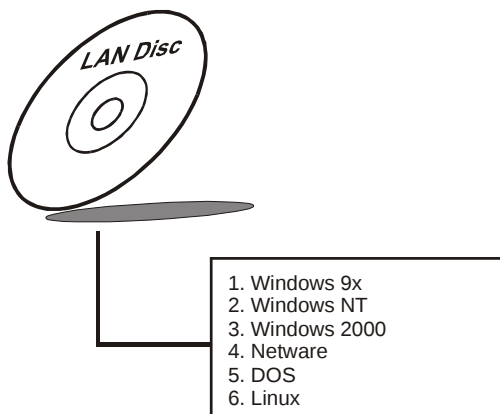
FLASH MEMORY WRITER V7.XX (C) Award Software 2001 All Rights Reserved		
Flash Type – MX29F004T		
File Name to Program: s55xxxxx.bin		
Verifying Flash Memory – 7FFFF OK		
☐ Write OK	☐ No Update	☐ Write Fail
F1: Reset F10: Exit		

Please reset or power off the system, then the Flash BIOS is fully implemented.

3-5. LAN DRIVER UTILITY

3-5-1. Introduction

The PPC-7360 Panel PC is enhanced with LAN function that can support various network adapters. Installation programs for LAN drivers are listed as follows:



3-5-2. Installation Procedure for Windows 9x

1. Place insert the Driver CD into CD ROM drive.
2. Under Windows 9x/2000 system, go to the directory where LAN driver is located.
3. Click **Setup.exe** file for LAN driver installation.
4. Follow the instructions on the screen to complete the installation.
5. Once installation is completed, shut down the system and restart in order for the changes to take effect.

3-5-3. Installation Procedure for Windows NT

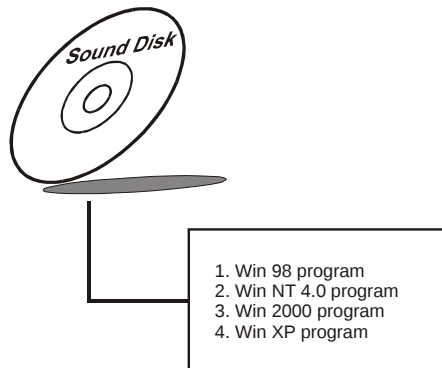
1. In the Main group to NT, select the “Control Panel” icon.
2. In the Control Panel window, choose the “Network” icon.
3. In the Network Settings dialog box, choose the “Add adapter” button. The Add Network Adapter dialog box appears.
4. In the list of network cards, select “<Other> requires disk from manufacturer”, and then press <Enter> button.
5. Insert the LAN Driver disk in Drive A or CDROM drive, and type D:\LAN, and then choose OK button.
6. Follow the remaining instruction, and re-boot your system to complete the installation process.

For more information on installation procedure, please refer to TXT directory found on LAN DRIVER UTILITY.

3-6. SOUND DRIVER UTILITY

3-6-1. Introduction

The VT1612A sound function enhanced in this system is fully compatible with Windows 98, Windows NT 4.0, and Windows 2000. Below, you will find the content of the Sound driver :



3-6-2. Installation Procedure for Windows 9x/NT/2000

1. From the task bar, click on Start, and then Run.
2. In the Run dialog box, type D:\Sound\setup, where "D:\Sound\pathname" refers to the full path to the source files.
3. Click on the OK button or press the ENTER key.
4. Click on the "Next" and OK prompts as they appear.
5. Reboot the system to complete the driver installation.

3-7. USB2.0 SOFTWARE INSTALLATION UTILITY

3-7-1. Installation of Utility for Windows 98SE/ 2000/XP

Intel USB 2.0 Enhanced Host Controller driver can only be used on Windows 98SE, Windows 2000 and Windows XP on Intel Desktop boards. It should be installed right after the OS installation, kindly follow the following steps:

1. Place insert the USB Disk into Floppy Disk Drive A/B or CD ROM drive.
2. Under Windows 98SE/2000/XP system, go to the directory where USB driver is located.
3. Click **Setup.exe** file for USB driver installation.
4. Follow the instructions on the screen to complete the installation.
5. Once installation is completed, shut down the system and restart in order for the changes to take effect.

3-8. TOUCH SCREEN DRIVER UTILITY (OPTIONAL)

To install, kindly refer to the readme.txt file found each separate file of the Driver Disc.

3-9. USB CF CARD DRIVER UTILITY (OPTIONAL)

To install, kindly refer to the readme.txt file found each separate file of the Driver Disc.

3-10. WATCHDOG TIMER CONFIGURATION

This board has watchdog timer function for monitoring whether the system is still work or not after a period of time. The user can select watchdog timer to system reset or NMI (Non Maskable interrupt) depending on the jumper set in “Reset/NMI/Clear Watchdog Selection” found in chapter 2. This is defined at I/O port **443H**. When you want to enable the watchdog timer, please write I/O port **443H**, and then the system will either reset itself or perform the NMI function. Likewise, when you want to disable the function, write I/O port **441H**, the system will run the command to stop the Watchdog function.

In PPC-7360 watchdog function, you must write your program so when it writes I/O port address 443 for enable watchdog and write I/O port address 441 for disable watchdog. The timer's intervals have a tolerance of 25% so you should program an instruction that will refresh the timer about every second.

The following program shows you how to program the watch timer in your program.

Watchdog enable program:

```
MOVAX, 000FH(choose the values you need; start from 0)
MOVDX, 443H
OUTDX, AX
```

Watchdog disable program:

```
MOVAX, 000FH(this value can be ignored)
```

MOVDX, 441H

OUTDX, AX

The Watchdog Timer control table is as follows:

Level	Value	Time/sec	Level	Value	Time/sec
1	F	0	9	7	64
2	E	8	10	6	72
3	D	16	11	5	80
4	C	24	12	4	88
5	B	32	13	3	96
6	A	40	14	2	104
7	9	48	15	1	112
8	8	56	16	0	120

AWARD BIOS SETUP

CHAPTER

4

This chapter shows how to set up the Award BIOS.

Section includes:

- Introduction
- Entering Setup
- The Standard CMOS Features
- The Advanced BIOS Features
- The Advanced Chipset Features
- Integrated Peripherals
- Power Management Setup
- PNP/PCI Configurations
- PC Health Status
- Frequency/Voltage Control
- Load Fail-Safe Defaults
- Load Optimized Defaults
- Password Setting
- Save and Exit Setup
- Exit Without Saving

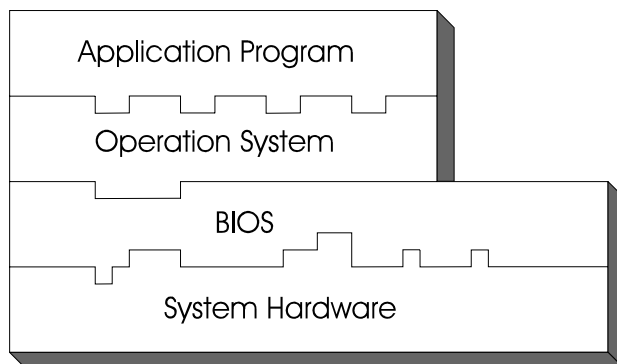
4-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The PPC-7360 Panel PC is equipped with the BIOS for system chipset from Award Software Inc. This page briefly explains the function of the BIOS in managing the special features of your system. The following pages describe how to use the BIOS for system chipset Setup menu.

Your application programs (such as word processing, spreadsheets, and games) rely on an operating system such as DOS or OS/2 to manage such things as keyboard, monitor, disk drives, and memory.

The operating system relies on the BIOS (Basic Input and Output system), a program stored on a ROM (Read-only Memory) chip, to initialize and configure your computer's hardware. As the interface between the hardware and the operating system, the BIOS enables you to make basic changes to your system's hardware without having to write a new operating system.

The following diagram illustrates the interlocking relationships between the system hardware, BIOS, operating system, and application program:



4-2. ENTERING SETUP

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines and the following message will appear on the lower screen:

PRESS TO ENTER SETUP, ESC TO SKIP MEMORY TEST

As long as this message is present on the screen you may press the key (the one that shares the decimal point at the bottom of the number keypad) to access the Setup program. In a moment, the main menu of the Award SETUP program will appear on the screen:

Phoenix - AwardBIOS CMOS Setup Utility	
▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status	▶ Frequency/Voltage Control - Load Fail-Safe Defaults - Load Optimized Defaults - Set Supervisor Password - Set User Password - Save & Exit Setup - Exit Without Saving
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type	

Setup program initial screen

You may use the cursor the up/down keys to highlight the individual menu items. As you highlight each item, a brief description of the highlighted selection will appear at the bottom of the screen.

4-3. THE STANDARD CMOS FEATURES

Highlight the "STANDARD CMOS FEATURES" and press the <ENTER> key and the screen will display the following table:

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date (mm:dd:yy)	Thu, NOV 11 2004	Item Help Menu Level ► Change the day, month, year and century
Time (hh:mm:ss)	12 : 47 : 28	
► IDE Primary Master	[IC25N020ATCS04-0]	
► IDE Primary Slave	[None]	
► IDE Secondary Master	[None]	
► IDE Secondary Slave	[None]	
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	113664K	
Total Memory	114688K	
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

CMOS Setup screen

In the above Setup Menu, use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Date:

< Month >, < Date > and <Year >. Ranges for each value are in the CMOS Setup Screen, and the week-day will skip automatically.

Time:

< Hour >, < Minute >, and < Second >. Use 24 hour clock format, i.e., for PM numbers, add 12 to the hour. For example: 4: 30 P.M. You should enter the time as 16:30:00.

IDE Primary Master / Slave:**IDE Secondary Master / Slave:**

The BIOS can automatically detect the specifications and optimal operating mode of almost all IDE hard drives. When you select type AUTO for a hard drive, the BIOS detect its specifications during POST, every time system boots.

If you do not want to select drive type AUTO, other methods of selecting drive type are available:

1. Match the specifications of your installed IDE hard drive(s) with the preprogrammed values for hard drive types 1 through 45.
2. Select USER and enter values into each drive parameter field.
3. Use the IDE HDD AUTO DETECTION function in Setup.

Here is a brief explanation of drive specifications:

- **Type:** The BIOS contains a table of pre-defined drive types. Each defined drive type has a specified number of cylinders, number of heads, write precompensation factor, landing zone, and number of sectors. Drives whose specifications do not accommodate any predefine type are classified as type USER.
- **Size:** Disk drive capacity (approximate). Note that this size is usually greater than the size of a formatted disk given by a disk-checking program.
- **Cyls:** number of cylinders.
- **Head:** number of heads.
- **Precomp:** write precompensation cylinders.
- **Landz:** landing zone.
- **Sector:** number of sectors.
- **Mode:** Auto, Normal, Large or LBA.
- **Auto:** The BIOS automatically determines the optimal mode.
 - **Normal:** Maximum number of cylinders, heads, sectors supported are 1024, 16 and 63.
 - **Large:** For drives that do not support LBA and have more than 1024 cylinders.

- **LBA (Logical Block Addressing):** During drive accesses, the IDE controller transforms the data address described by sector, head and cylinder number into a physical block address, significantly improving data transfer rates. For drives greater than 1024 cylinders.

DRIVE A AND DRIVE B:

Select the type of floppy disk drive installed in your system. The available options are 360KB 5.25in, 1.2KB 5.25in, 720KB 3.5in, 1.44MB 3.5in, 2.88MB 3.5in and None.

VIDEO:

This category selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type in Setup. Available Options are as follows:

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode.
CGA 80	Color Graphics Adapter, power up in 80 column mode.
MONO	Monochrome adapter, includes high resolution monochrome adapters.

HALT ON:

This category allows user to choose whether the computer will stop if an error is detected during power up. Available options are “All errors”, “No errors”, “All, But keyboard”, “All, But Diskette”, and “All But Disk/Key”.

BASE MEMORY:

Displays the amount of conventional memory detected during boot up.

EXTENDED MEMORY:

Displays the amount of extended memory detected during boot up.

TOTAL MEMORY:

Displays the total memory available in the system.

HARD DISK ATTRIBUTES:

Type	Cylinders	Heads	V-P comp	LZone	Sect	Capacity
1	306	4	128	305	17	10
2	615	4	300	615	17	20
3	615	6	300	615	17	30
4	940	8	512	940	17	62
5	940	6	512	940	17	46
6	615	4	65535	615	17	20
7	642	8	256	511	17	30
8	733	5	65535	733	17	30
9	900	15	65535	901	17	112
10	820	3	65535	820	17	20
11	855	5	65535	855	17	35
12	855	7	65535	855	17	49
13	306	8	128	319	17	20
14	733	7	65535	733	17	42
15	000	0	0000	000	00	00
16	612	4	0000	663	17	20
17	977	5	300	977	17	40
18	977	7	65535	977	17	56
19	1024	7	512	1023	17	59
20	733	5	300	732	17	30
21	733	7	300	732	17	42
22	733	5	300	733	17	30
23	306	4	0000	336	17	10
24	977	5	65535	976	17	40
25	1024	9	65535	1023	17	76
26	1224	7	65535	1223	17	71
27	1224	11	65535	1223	17	111
28	1224	15	65535	1223	17	152
29	1024	8	65535	1023	17	68
30	1024	11	65535	1023	17	93
31	918	11	65535	1023	17	83
32	925	9	65535	926	17	69
33	1024	10	65535	1023	17	85
34	1024	12	65535	1023	17	102
35	1024	13	65535	1023	17	110
36	1024	14	65535	1023	17	119
37	1024	2	65535	1023	17	17
38	1024	16	65535	1023	17	136
39	918	15	65535	1023	17	114
40	820	6	65535	820	17	40
41	1024	5	65535	1023	17	42
42	1024	5	65535	1023	26	65
43	809	6	65535	852	17	40
44	809	6	65535	852	26	61
45	776	8	65335	775	33	100
47			AUTO			

Award Hard Disk Type Table

4-4. THE ADVANCED BIOS FEATURES

Choose the "ADVANCED BIOS FEATURES" in the main menu, the screen shown as below.

Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features

Virus Warning	[Disabled]	Item Help
CPU Internal Cache	[Enabled]	
External Cache	[Enabled]	Menu Level ▶
CPU L2 Cache ECC Checking	[Enabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[USB-FDD]	
Second Boot Device	[CDROM]	
Third Boot Device	[Floppy]	
Boot Other Device	[Enabled]	
Swap Floppy Drive	[Disabled]	
Boot Up Floppy Seek	[Disabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	[Setup]	
OS Select for DRAM > 64MB	[Non-OS2]	
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]	
Small Logo (EPA) Show	[Enabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

BIOS Features Setup Menu

The "BIOS FEATURES SETUP" allow you to configure your system for basic operation. The user can select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

A brief introduction of each setting in the BIOS FEATURES SETUP program is given on the next few pages.

VIRUS WARNING :

This item 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.

CPU INTERNAL CACHE:**EXTERNAL CACHE:**

These two categories speed up memory access. However, it depends on CPU/chipset design.

CPU L2 CACHE ECC CHECKING:

When you select Enabled, memory checking is enable when the external Cache contains ECC SRAMs.

QUICK POWER ON SELF-TEST:

This item allows you to speed up Power On Self Test (POST) after power-up the computer. When enabled, the BIOS will shorten or skip some check items during POST.

FIRST/SECOND/THIRD/OTHER BOOT DEVICE:

The BIOS attempt to load the operating system from the devices in the sequence selected in these items.

SWAP FLOOPY DRIVE:

This field is effective only in systems with two floppy drives. Selecting Enabled assigns physical drive B to logical drive A, and physical drive A to logical drive B.

BOOT UP FLOPPY SEEK:

You may enable / disable this item to define whether the system will look for a floppy disk drive to boot at power-on, or proceed directly to the hard disk drive.

BOOT UP NUMLOCK STATUS:

Select power on state for NumLock.

GATE 20A OPTION:

This entry allows you to select how the gate A20 is handled. When Normal was set, a pin in the keyboard controller controls Gate A20. And when Fast was set, the chipset controls Gate A20.

TYPOMATIC RATE SETTING:

Enable this item if you wish to be able to configure the characteristics of your keyboard. Typematic refers to the way in which characters are entered repeatedly if a key is held down. For example, if you press and hold down the "A" key, the letter "a" will repeatedly appear on your screen on your screen until you release the key. When enabled, the typematic rate and typematic delay can be selected.

TYPOMATIC RATE (CHARS/SEC):

This item sets the number of times a second to repeat a key stroke when you hold the key down.

TYPOMATIC DELAY (MSEC):

The item sets the delay time after the key is held down before it begins to repeat the keystroke.

SECURITY OPTION:

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

 To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

OS SELECT FOR DRAM >64MB :

Select the operating system that is running with greater than 64MB or RAM on the system. You may choose OS2 or Non-OS2.

VIDEO BIOS SHADOW:

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

4-5. ADVANCED CHIPSET FEATURES

Choose the "ADVANCED CHIPSET FEATURES" from the main menu, the screen shown as below.

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features

DRAM Timing Selectable	[Enabled]	Item Help
X DRAM Clock	Host CLK	
X SDRAM Cycle Length	3	Menu Level ▶
X Bank Interleave	Disabled	
Memory Hole	[Disabled]	
P2C/C2P Concurrency	[Enabled]	
System BIOS Cacheable	[Disabled]	
Video RAM Cacheable	[Disabled]	
Frame Buffer Size	[16M]	
Panel Controlled By	[Hardware Settings]	
X Panel Resolution	800 x 600	
Boot Device Select	[Auto]	
OnChip USB	[Enabled]	
USB Keyboard Support	[Disabled]	
OnChip Sound	[Auto]	
CPU to PCI Write Buffer	[Enabled]	
PCI Dynamic Bursting	[Enabled]	
PCI Master 0 WS Write	[Enabled]	
PCI Delay Transaction	[Disabled]	
PCI#2 Access #1 Retry	[Enabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Chipset Features Setup Screen

This parameter allows you to configure the system based on the specific features of the installed chipset. The chipset manages bus speed and access to system memory resources, such as DRAM and the external cache.

It also coordinates communications between conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for the system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

 Please be aware that if select the wrong panel type, it may cause the abnormal display of the LCD.

DRAM TIMING SELECTABLE :

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

DRAM CLOCK :

This item allows you to control the DRAM speed at either equal to or one-half of the SYSCLK (system clock signal) speed. While speed is always desirable, choosing the higher setting may prove to be too fast for some components.

SDRAM CYCLE LENGTH:

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

MEMORY HOLE:

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

P2C/C2P CONCURRENCY:

This item allows you to enable/ disable the PCI to CPU, CPU to PCI concurrency.

SYSTEM BIOS CACHEABLE:

Selecting *Enabled* allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

VIDEO RAM CACHEABLE:

Selecting *Enabled* allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

VIDEO BIOS CACHEABLE:

Select *Enabled* allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

ONCHIP USB :

This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

USB KEYBOARD SUPPORT :

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

ONCHIP SOUND :

This item allows you to control the onboard AC 97 audio.

CPU TO PCI WRITE BUFFER :

When this field is *Enabled*, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When *Disabled*, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.

PCI DYNAMIC BURSING :

When *Enabled*, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and nonburstable transactions don't.

PCI MASTER 0 WS WRITE :

When *Enabled*, writes to the PCI bus are executed with zero wait states.

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.

PCI#2 ACCESS #1 RETRY :

When disabled, PCI#2 will not be disconnected until access finishes (default).
When enabled, PCI#2 will be disconnected if max retries are attempted without success.

4-6. INTEGRATED PERIPHERALS

Choose "INTEGRATED PERIPHERALS" from the main setup menu, a display will be shown on screen as below:

Phoenix – Award CMOS Setup Utility Integrated Peripherals

OnChip IDE Channel0	[Enabled]	Item Help
OnChip IDE Channel1	[Enabled]	Menu Level ►
IDE Prefetch Mode	[Enabled]	
Primary Master PIO	[Auto]	
Primary Slave PIO	[Auto]	
Secondary Master PIO	[Auto]	
Secondary Slave PIO	[Auto]	
Primary Master UDMA	[Auto]	
Primary Slave UDMA	[Auto]	
Secondary Master UDMA	[Auto]	
Secondary Slave UDMA	[Auto]	
Init Display First	[Onboard VGA]	
IDE HDD Block Mode	[Enabled]	
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
Onboard Parallel Port	[378/IRQ7]	
Onboard Parallel Mode	[Normal]	
X ECP Mode Use DMA	3	
X Parallel Port EPP Type	EPP1.9	
Onboard Parallel Port 3	[3E8]	
Serial Port 3 Use IRQ	[IRQ10]	
Onboard Serial Port 4	[2E8]	
Serial Port 4 Use IRQ	[IRQ11]	
IO Channel Check NMI	[Disabled]	
Watch Dog Timer Select	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Integrated Peripherals Setup Screen

By moving the cursor to the desired selection and by pressing the <F1> key, the all options for the desired selection will be displayed for choice.

ONCHIP IDE CHANNEL 0 / 1 :

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this interface.

IDE PREFETCH MODE :

The onboard IDE drive interfaces supports IDE pre-fetching for faster drive accesses. If you install a primary and or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support pre-fetching.

PRIMARY MASTER/SLAVE PIO:

SECONDARY MASTER/SLAVE PIO:

The four IDE PIO fields allow you to set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

PRIMARY MASTER/SLAVE UDMA:

SECONDARY MASTER/SLAVE UDMA:

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If you hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

INIT DISPLAY FIRST:

This item allows you to decide to active whether PCI Slot or on-chip VGA first.

IDE HDD BLOCK MODE :

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

ONBOARD FDD CONTROLLER:

Select Enabled if the system has a floppy disk drive (FDD) installed on the system board and you wish to use it. If you install and-in FDD or the system has no floppy drive, select Disabled.

ONBOARD SERIAL PORT 1:

ONBOARD SERIAL PORT 2:

ONBOARD SERIAL PORT 3:

ONBOARD SERIAL PORT4:

Select an address and corresponding interrupt for the first and second serial ports.

ONBOARD PARALLEL PORT:

This item allows you to determine access onboard parallel port controller with which I/O address.

PARALLEL PORT MODE:

Select an operating mode for the onboard parallel (printer) port. Select *Normal*, *Compatible*, or *SPP* unless you are certain your hardware and software both support one of the other available modes.

ECP MODE USE DMA:

Select a DMA channel for the parallel port for use during ECP mode.

PARALLEL PORT EPP MODE:

Select EPP port type 1.7 or 1.9.

IO CHANNELCHECK NMI :

This field allows you to enable or disable IO channel check NMI. Before selecting this function, the user should check first that NMI function is enabled as described in chapter 2 (*Reset/NMI/Clear Watchdog Selection*).

4-7. POWER MANAGEMENT SETUP

Choose "POWER MANAGEMENT SETUP" option on the main menu, a display will be shown on screen as below :

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

ACPI Function	[Enabled]	Item Help
▶ Power Management	[Press Enter]	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:Fail-Safe Defaults F7:Optimized Defaults		

Power Management Setup Screen

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

ACPI FUNCTION:

Users are allowed to enable or disable the Advanced Configuration and Power Management (ACPI).

POWER MANAGEMENT:

This item allows you to select the Power Management mode.

PM CONTROL BY APM:

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock. If Advance Power Management (APM) is installed on your system, selecting Yes gives better power savings. If the Max. Power Saving is not enabled, this will be preset to No.

VIDEO OFF OPTION:

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On	Monitor will remain on during power saving modes.
Suspend --> Off	Monitor blanked when the systems enters the Suspend mode.
Susp,Stby --> Off	Monitor blanked when the system enters either Suspend or Standby modes.
All Modes --> Off	Monitor blanked when the system enters any power saving mode.

VIDEO OFF METHOD:

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Select this option if your monitor supports the Display Power Management Signalling (DPMS) standard of the Video Electronics Standards to select video power management values.

MODEM USE IRQ:

This determines the IRQ in which the MODEM can use.

SOFT-OFF BY PWR-BTTN:

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung”. The choices are Delay 4 Sec and Instant-Off.

PM EVENTS:

PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything, which occurs to a device which is configured as *Enabled*, even when the system is in a power down mode. (1) **Primary IDE 0** (2) **Primary IDE 1** (3) **Secondary IDE 0** (4) **Secondary IDE 1** (5) **FDD, COM, LPT Port**

4-8. PNP/PCI CONFIGURATION

Choose "PNP/PCI CONFIGURATION" from the main menu, a display will be shown on screen as below:

Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

PNP OS Installed	[No]	Item Help
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto(ESCD)]	Menu Level ► Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
x IRQ Resources	Press Enter	
x DMA Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ for VGA	[Enabled]	
Assign IRQ for USB	[Enabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

PNP/PCI Configuration Setup Screen

☛ Note: Please change IRQ 15 to Legacy ISA before installing Windows 98.

This section describes how to configure PCI bus system. PCI, also known as Personal Computer Interconnect, is a system, which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers technical items, which is strongly recommended for experienced users only.

PNP OS INSTALLED:

This item allows you to determine install PnP OS or not.

RESET CONFIGURATION DATA:

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

RESOURCE CONTROLLED BY:

The Award Plug and Play Bios can automatically configure all of the booth 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. By choosing "manual", you are allowed to configure the *IRQ Resources*, *DMA Resources* and *Memory Resources*. The choices are Auto (ESCD) and Manual.

IRQ RESOURCES:

You may assign each system interrupt a type, depending on the type of device using the interrupt.

DMA RESOURCES:

When resources are controlled manually, assign each system DMA channel a type, depending on the type of device using the DMA channel.

PCI/VGA PALETTE SNOOP:

Leave this field at disabled.

ASSIGN IRQ FOR USB:

Enable or Disable to assign IRQ for USB.

ASSIGN IRQ FOR VGA:

Enable or Disable to assign IRQ for VGA.

4-9. PC HEALTH STATUS

Choose "PC HEALTH STATUS" from the main menu, a display will be shown on screen as below:

Phoenix - AwardBIOS CMOS Setup Utility
PC Health Status

CPU Warning Temperature	[Disabled]	Item Help
Current CPU Temp.	44°C/111°F	Menu Level ►
Current System Fan Speed	6012 RPM	
VCORE	1. 09V	
2.5V	2. 2.56V	
3.3V	3.46V	
5 V	5.32V	
12V	12.60V	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

PC Health Status Setup Screen

The setup menu allows you to select whether to choose between monitoring or ignoring the hardware monitoring function of your system.

CPU WARNING TEMPERATURE:

This item will prevent CPU from overheating.

CPU TEMPERATURE:

This item shows you the current CPU temperature.

SYSTEM FAN SPEED:

This item shows you the current SYSTEMFAN speed.

VCORE:

This item shows you the current system voltage.

2.5V/3.3V/5V/12V:

This item shows you the voltage of +3.3V/+5V/+12V/-12V/-5V.

4-10. FREQUENCY/VOLTAGE CONTROL

Choose "FREQUENCY/VOLTAGE CONTROL" from the main menu, a display will be shown on screen as below:

Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control

VIA C3 Clock Ratio	[Default]	Item Help
Auto Detect DIMM/PCI Clk	[Enabled]	Menu Level ▶
Spread Spectrum	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Frequency / Voltage Control Setup Screen

This setup menu allows you to specify your settings for frequency/voltage control.

AUTO DETECT PCI CLK:

This item allows you to enable or disable auto detect PCI Clock.

SPREAD SPECTRUM:

This item allows you to enable or disable the spread spectrum modulate.

4-11. LOAD FAIL-SAFE DEFAULTS

By pressing the <ENTER> key on this item, you get a confirmation dialog box with a message similar to the following:

Load Fail-Safe Defaults (Y/N) ? N

To use the BIOS default values, change the prompt to "Y" and press the <Enter> key. CMOS is loaded automatically when you power up the system.

 Please be aware that if select the wrong panel type, it may cause the abnormal display of the LCD.

4-12. LOAD OPTIMIZED DEFAULTS

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

Load Optimized Defaults (Y/N) ? N

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

 Please be aware that if select the wrong panel type, it may cause the abnormal display of the LCD.

4-13. PASSWORD SETTING

User is allowed to set either supervisor or user password, or both of them. The difference is that the supervisor password can enter and change the options of the setup menus while the user password can enter only but do not have the authority to change the options of the setup menus.

TO SET A PASSWORD

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 now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press the < Enter > key. You may also press < Esc > to abort the selection and not enter a password.

 User should bear in mind that when a password is set, you will be asked to enter the password everything you enter CMOS setup Menu.

TO DISABLE THE PASSWORD

To disable the password, select this function (do not enter any key when you are prompt to enter a password), and press the <Enter> key and a message will appear at the center of the screen:

PASSWORD DISABLED!!!
Press any key to continue...

Press the < Enter > key again and the password will be disabled. Once the password is disabled, you can enter Setup freely.

4-14. SAVE & EXIT SETUP

After you have completed adjusting all the settings as required, you must remember to save these setting into the CMOS RAM. To save the settings, select “SAVE & EXIT SETUP” and press <Enter>, a display will be shown as follows:

Phoenix - AwardBIOS CMOS Setup Utility	
▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management ▶ PnP/PCI Configura ▶ PC Health Status	▶ Frequency/Voltage Control - Load Fail-Safe Defaults - Load Optimized Defaults - Set Supervisor Password
Save to CMOS and EXIT Y/N)? Y	
word etup Saving	
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item F10 : Save & Exit Setup	
Save Data to CMOS	

When you confirm that you wish to save the settings, your system will be automatically restarted and the changes you have made will be implemented. You may always call up the setup program at any time to adjust any of the individual items by pressing the key during boot up.

4-15. EXIT WITHOUT SAVING

If you wish to cancel any changes you have made, you may select the “EXIT WITHOUT SAVING” and the original setting stored in the CMOS will be retained. The screen will be shown as below:

Phoenix - AwardBIOS CMOS Setup Utility

▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management ▶ PnP/PCI Configura ▶ PC Health Status	▶ Frequency/Voltage Control - Load Fail-Safe Defaults - Load Optimized Defaults - Set Supervisor Password
Quit Without Saving (Y/N)? N	
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item F10 : Save & Exit Setup	
Abandon all Datas	

SYSTEM ASSEMBLY

APPENDIX

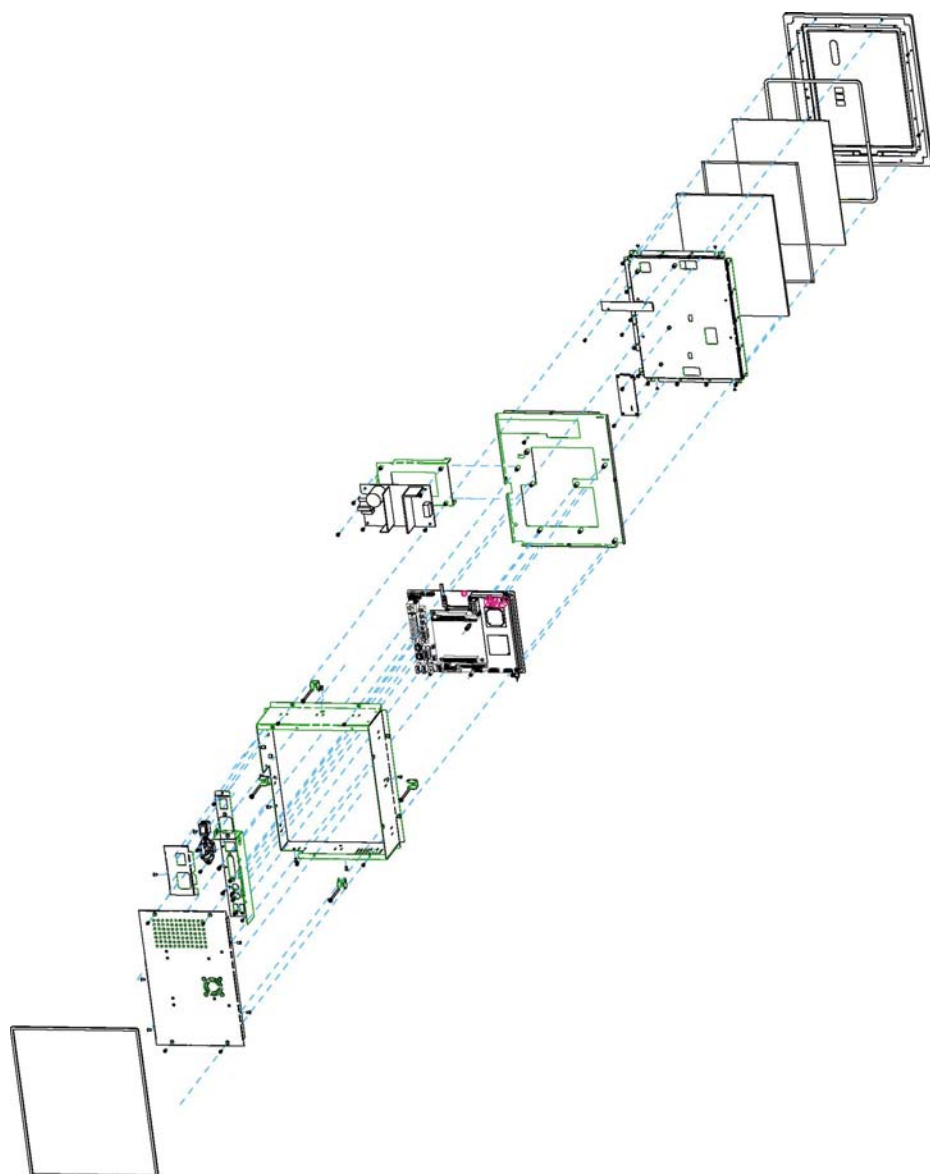
A

This appendix contain exploded diagram of the system.

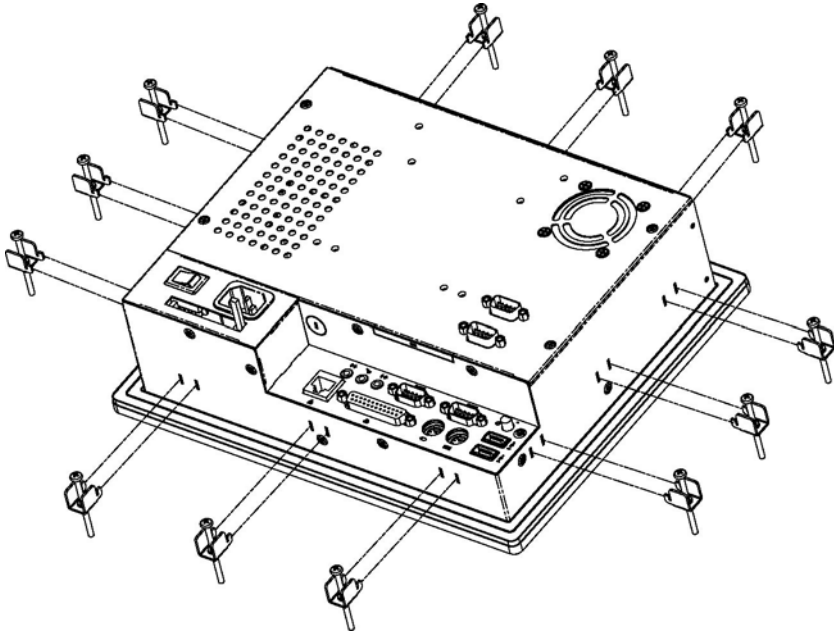
Section includes:

- Exploded Diagram for Whole System Unit
- Exploded Diagram for Removing Hook Holder
- Exploded Diagram for Removing Back Cover
- Exploded Diagram for Removing LCD Assembly
- Exploded Diagram for Front Panel
- Exploded Diagram for Cut-Out Dimension
- Exploded Diagram for Rubber Installation

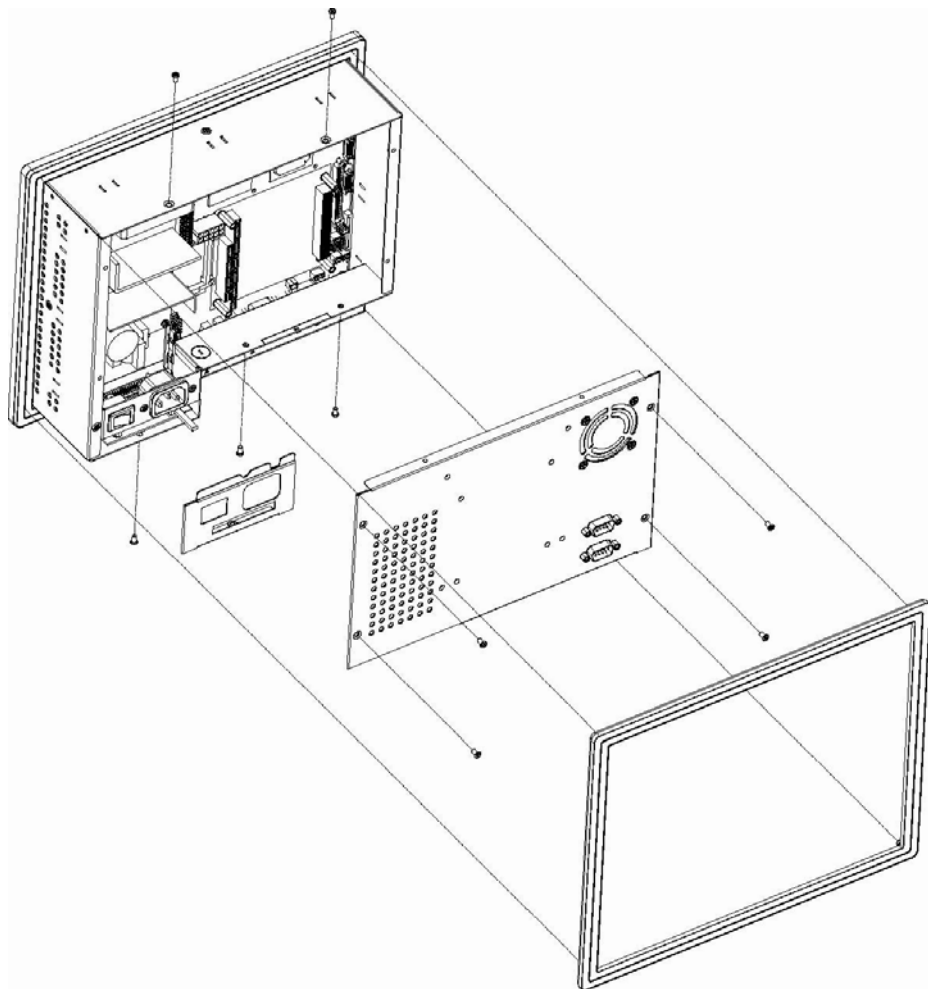
EXPLODED DIAGRAM FOR WHOLE SYTEM UNIT



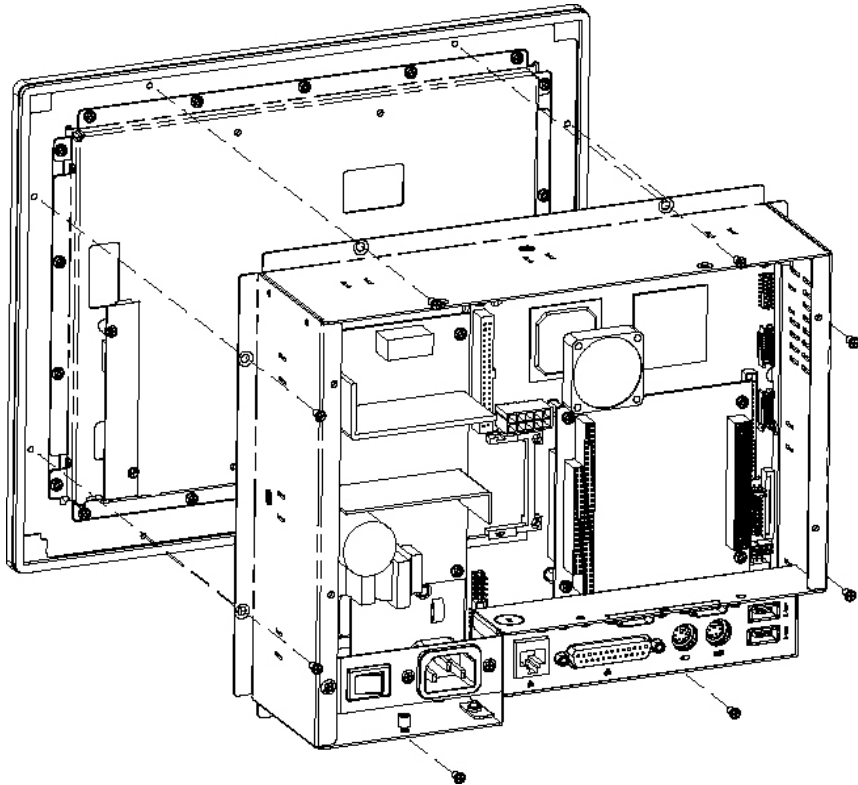
EXPLODED DIAGRAM FOR REMOVING HOOK HOLDER



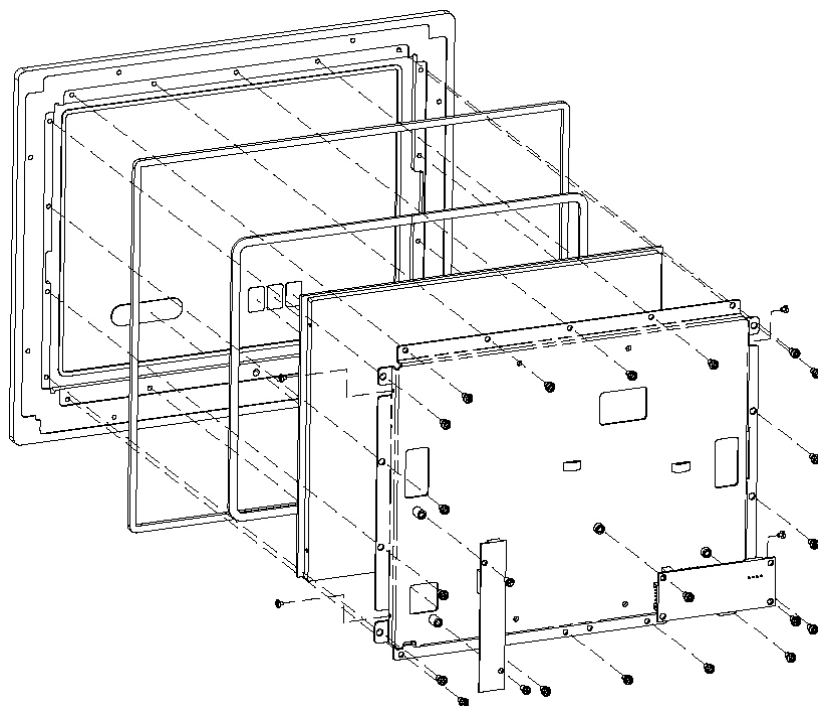
EXPLODED DIAGRAM FOR REMOVING BACK COVER



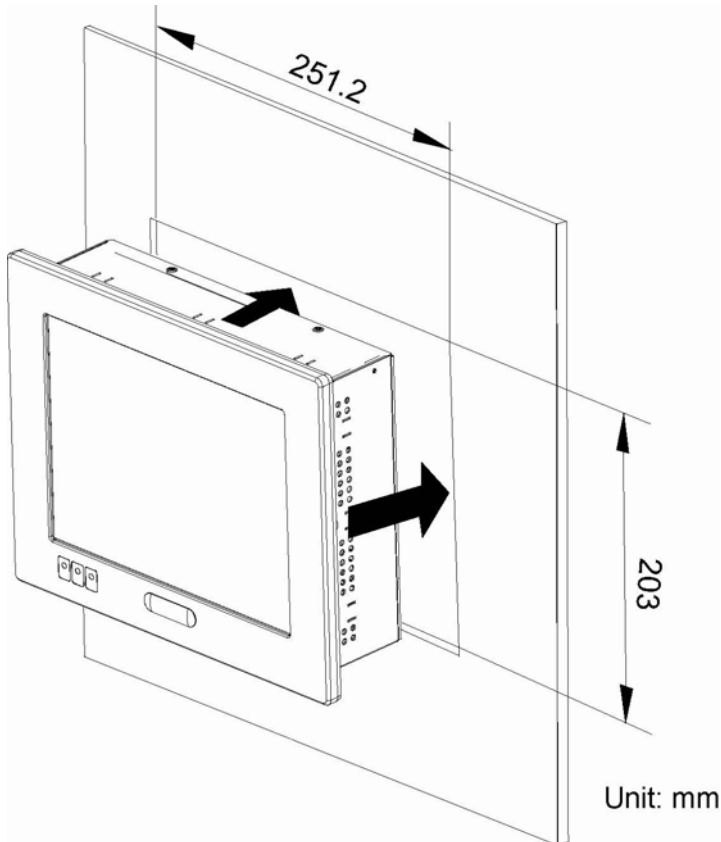
EXPLODED DIAGRAM FOR REMOVING LCD ASSEMBLY



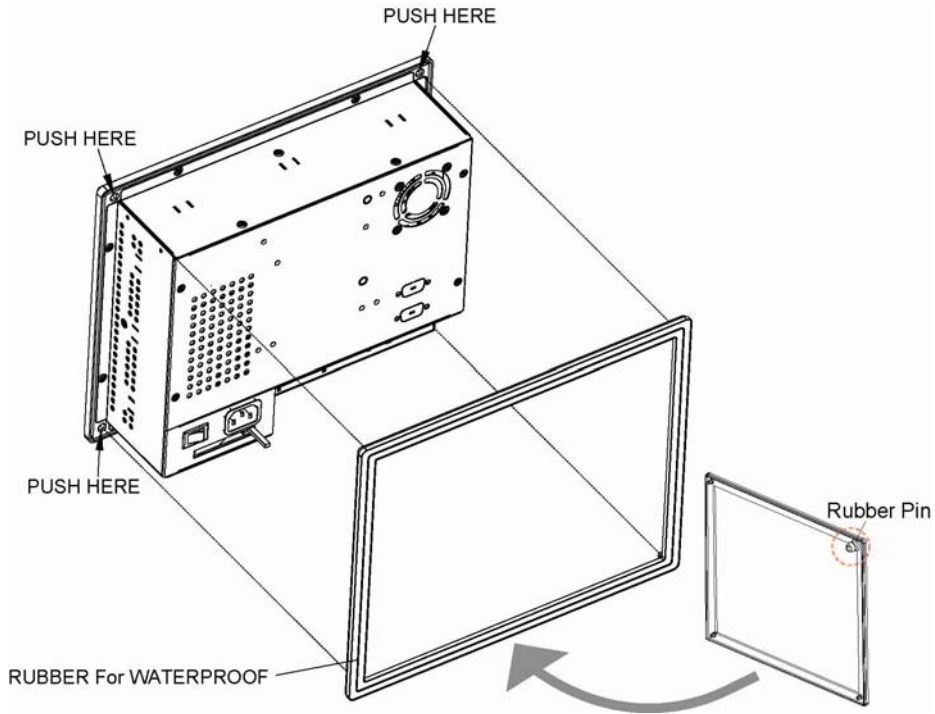
EXPLODED DIAGRAM FOR FRONT PANEL



EXPLODED DIAGRAM FOR CUT-OUT DIMENSION



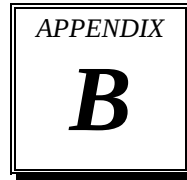
EXPLODED DIAGRAM FOR RUBBER INSTALLATION



STEP:

1. Please find the groove and 4 positioning holes at the back of the front panel.
2. Aligning the waterproof rubber by matching its 4 rubber pins to the 4 holes.
3. Pushing those pins into the holes, then firmly press the seal lip of waterproof rubber into the groove.

TECHNICAL SUMMARY

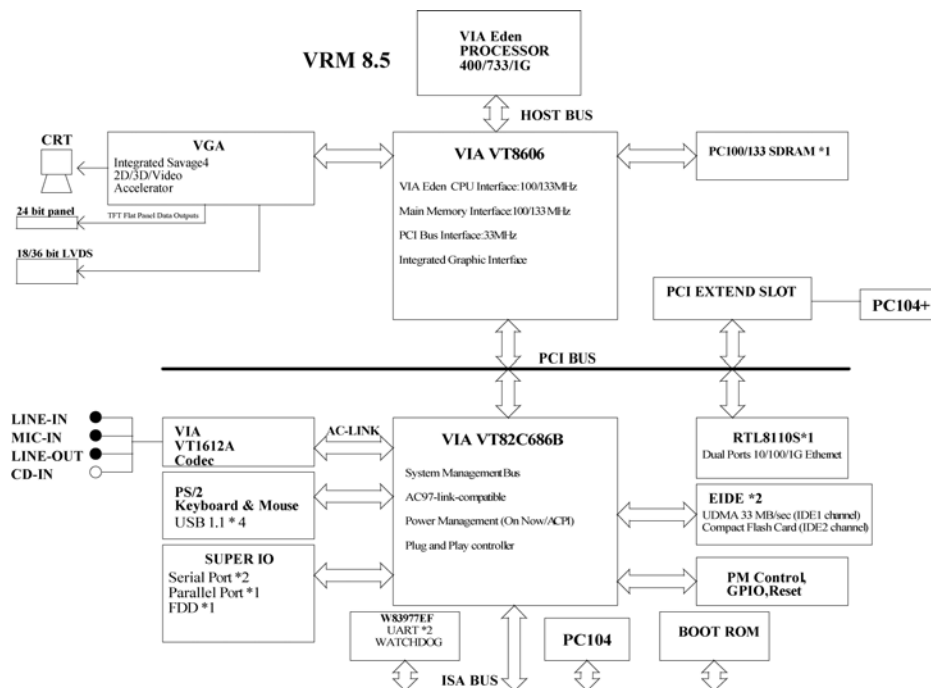


This section introduce you the maps concisely.

Sections include:

- Block Diagram
- Interrupt Map
- RTC (Standard) RAM Bank
- Timer & DMA Channels Map
- I / O & Memory Map

BLOCK DIAGRAM



INTERRUPT MAP

IRQ	ASSIGNMENT
0	System TIMER interrupt from TIMER-0
1	Keyboard output buffer full
2	Cascade for IRQ 8-15
3	Serial port 2
4	Serial port 1
5	Available
6	Floppy Disk adapter
7	Parallel port 1
8	RTC clock
9	ACPI-Compliant System
10	Serial port 3
11	Serial port 4
12	PS/2 Mouse
13	Math coprocessor
14	Hard Disk adapter
15	Hard Disk adapter

RTC (STANDARD) RAM BANK

CODE	ASSIGNMENT
00h	Seconds
01h	Second alarm
02h	Minutes
03h	Minutes alarm
04h	Hours
05h	Hours alarm
06h	Day of week
07h	Day of month
08h	Month
09h	Year
0Ah	Status register A
0Bh	Status register B
0Ch	Status register C
0Dh	Status register D
0Eh-7Fh	114 Bytes of User RAM

TIMER & DMA CHANNELS MAP

Timer Channel Map :

Timer Channel	Assignment
0	System timer interrupt
1	DRAM Refresh request
2	Speaker tone generator

DMA Channel Map :

DMA Channel	Assignment
0	Available
1	Available
2	Floppy Disk adapter
3	Available
4	Cascade
5	Available
6	Available
7	Available

I/O & MEMORY MAP

Fixed I/O Ranges Decoded by ICH2 :

I/O Address	Read Target	Write Target	Internal Unit
00h-08h	DMA Controller	DMA Controller	DMA
09h-0Eh	Reserved	DMA Controller	DMA
0Fh	DMA Controller	DMA Controller	DMA
10h-18h	DMA Controller	DMA Controller	DMA
19h-1Eh	Reserved	DMA Controller	DMA
1Fh	DMA Controller	DMA Controller	DMA
20h-21h	Interrupt Controller	Interrupt Controller	Interrupt
24h-25h	Interrupt Controller	Interrupt Controller	Interrupt
28h-29h	Interrupt Controller	Interrupt Controller	Interrupt
2Ch-2Dh	Interrupt Controller	Interrupt Controller	Interrupt
2Eh-2Fh	LPC SIO	LPC SIO	Forwarder to LPC
30h-31h	Interrupt Controller	Interrupt Controller	Interrupt
34h-35h	Interrupt Controller	Interrupt Controller	Interrupt
38h-39h	Interrupt Controller	Interrupt Controller	Interrupt
3Ch-3Dh	Interrupt Controller	Interrupt Controller	Interrupt
40h-42h	Timer/Counter	Timer/Counter	PIT (8254)
43h	Reserved	Timer/Counter	PIT
4E-4F	LPC SIO	LPC SIO	Forwarder to LPC
50h-52h	Timer/Counter	Timer/Counter	PIT
53h	Reserved	Timer/Counter	PIT
60h	Microcontroller	Microcontroller	Forwarder to LPC
61h	NMI Controller	NMI Controller	Processor I/F
62h	Microcontroller	Microcontroller	Forwarder to LPC
63h	NMI Controller	NMI Controller	Processor I/F
64h	Microcontroller	Microcontroller	Forwarder to LPC
65h	NMI Controller	NMI Controller	Processor I/F
66h	Microcontroller	Microcontroller	Forwarder to LPC
67h	NMI Controller	NMI Controller	Processor I/F
70h	Reserved ⁵	NMI & RTC controller	RTC
71h	RTC Controller	RTC Controller	RTC
72h	RTC Controller	NMI & RTC controller	RTC
73h	RTC Controller	RTC Controller	RTC
74h	RTC Controller	NMI & RTC controller	RTC
75h	RTC Controller	RTC Controller	RTC
76h	RTC Controller	NMI & RTC controller	RTC
77h	RTC Controller	RTC Controller	RTC

I/O Address	Read Target	Write Target	Internal Unit
80h	DMA Controller	DMA controller & LPC/PCI	DMA
81h-83h	DMA Controller	DMA Controller	DMA
84h-86h	DMA Controller	DMA Controller & LPC or PCI	DMA
87h	DMA Controller	DMA Controller	DMA
88h	DMA Controller	DMA Controller & LPC or PCI	DMA
89h-8Bh	DMA Controller	DMA Controller	DMA
8Ch-8Eh	DMA Controller	DMA Controller & LPC or PCI	DMA
08Fh	DMA Controller	DMA Controller	DMA
90h-91h	DMA Controller	DMA Controller	DMA
92h	Reset Generator	Reset Generator	Processor I/F
93h-9Fh	DMA Controller	DMA Controller	DMA
A0h-A1h	Interrupt Controller	Interrupt Controller	Interrupt
A4h-A5h	Interrupt Controller	Interrupt Controller	Interrupt
A8h-A9h	Interrupt Controller	Interrupt Controller	Interrupt
ACH-ADh	Interrupt Controller	Interrupt Controller	Interrupt
B0h-B1h	Interrupt Controller	Interrupt Controller	Interrupt
B2h-B3h	Power Management	Power Management	Power Management
B4h-B5h	Interrupt Controller	Interrupt Controller	Interrupt
B8h-B9h	Interrupt Controller	Interrupt Controller	Interrupt
BCh-BDh	Interrupt Controller	Interrupt Controller	Interrupt
C0h-D1h	DMA Controller	DMA Controller	DMA
D2h-DDh	Reserved	DMA Controller	DMA
DEh-DFh	DMA Controller	DMA Controller	DMA
F0h	See Note 3	FERR# /IGNNE#/ Interrupt Controller	Processor interface
170h-177h	IDE Controller ¹	IDE Controller ¹	Forwarded to IDE
1F0h-1F7h	IDE Controller ²	IDE Controller ²	Forwarded to IDE
376h	IDE Controller ¹	IDE Controller ¹	Forwarded to IDE
3F6h	IDE Controller ²	IDE Controller ²	Forwarded to IDE
4D0h-4D1h	Interrupt Controller	Interrupt Controller	Interrupt
CF9h	Reset Generator	Reset Generator	Processor interface

Notes:

1. Only if IDE Standard I/O space is enabled for Primary Drive. Otherwise, the target is PCI.
2. Only if IDE Standard I/O space is enabled for Secondary Drive. Otherwise, the target is PCI.
3. If POS_DEC_EN bit is enabled, reads from F0h will not be decoded by the ICH2. If POS_DEC_EN is not enabled, reads from F0h will forward to LPC.

Memory Decode Ranges From Processor Perspective :

Memory Range	Target	Dependency/Comments
0000 0000h-000D FFFFh 0010 0000-TOM (Top of Memory)	Main Memory	TOM registers in Host Controller
000E 0000h-000F FFFFh	FWH	Bit 7 in FWH Decode Enable Register is set
FEC0 0000h-FEC0 0100h	I/O APIC inside ICH2	
FFC0 0000h-FFC7 FFFFh FF80 0000h-FF87 FFFFh	FWH	Bit 0 in FWH Decode Enable Register
FFC8 0000h-FFCF FFFFh FF88 0000h-FF8F FFFFh	FWH	Bit 1 in FWH Decode Enable Register
FFD0 0000h-FFD7 FFFFh FF90 0000h-FF97 FFFFh	FWH	Bit 2 in FWH Decode Enable Register is set
FFD8 0000h-FFDF FFFFh FF98 0000h-FF9F FFFFh	FWH	Bit 3 in FWH Decode Enable Register is set
FFE0 0000h-FFE7 FFFFh FFA0 0000h-FFA7 FFFFh	FWH	Bit 4 in FWH Decode Enable Register is set
FFE8 0000h-FFEF FFFFh FFA8 0000h-FFAF FFFFh	FWH	Bit 5 in FWH Decode Enable Register is set
FFF0 0000h-FFF7 FFFFh FFB0 0000h-FFB7 FFFFh	FWH	Bit 6 in FWH Decode Enable Register is set
FFFB 0000h-FFFF FFFFh FFB8 0000h-FFBF FFFFh	FWH	Always Enabled. The top two 64K blocks of this range can be swapped as described in Section 6.4.1.
FF70 0000h-FF7F FFFFh FF30 0000h-FF3F FFFFh	FWH	Bit 3 in FWH Decode Enable 2 Register is set
FF60 0000h-FF6F FFFFh FF20 0000h-FF2F FFFFh	FWH	Bit 2 in FWH Decode Enable 2 Register is set
FF50 0000h-FF5F FFFFh FF10 0000h-FF1F FFFFh	FWH	Bit 1 in FWH Decode Enable 2 Register is set
FF40 0000h-FF4F FFFFh FF00 0000h-FF0F FFFFh	FWH	Bit 0 in FWH Decode Enable 2 Register is set
Anywhere in 4GB range	D110 LAN Controller	Enable via BAR in Device 29:Function 0 (D110 LAN Controller)
All Other	PCI	None