# USER'S MANUAL


# PPC-7615/ PPC-7617/ PPC-7619

**Intel® Core 2 Duo/ Core Solo**
**15" /17" /19" Panel PC System**

**PPC-7615/PPC-7617/**
**PPC-7619 M2**

# *PPC-7615/PPC-7617/ PPC-7619*
# *Intel® Core Duo/Solo Panel PC System*
## *With LCD / Touch screen*

# *OPERATION MANUAL*

## COPYRIGHT NOTICE



## ACKNOWLEDGEMENTS



## 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.

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## APPENDIX B TECHNICAL SUMMARY

# *INTRODUCTION*

*CHAPTER*

***1***

This chapter gives you the information for PPC-7615/PPC-7617/PPC-7619. 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-B531LF 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***

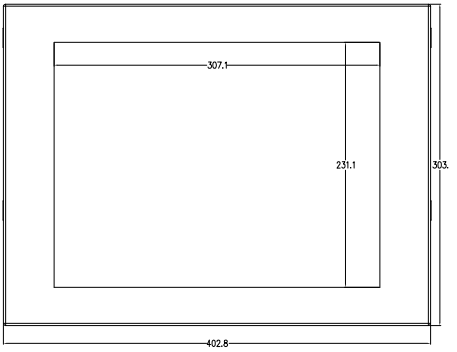
This section gives you the information about the Technical maps.

## 1-2. CASE ILLUSTRATION

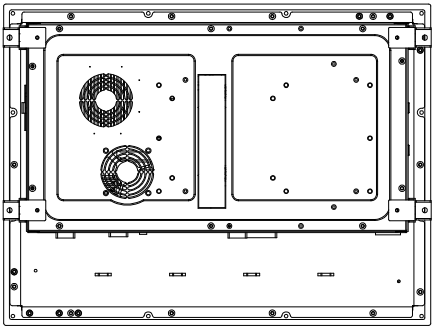
**Note:** When insert this computer into any machine or wall, user should left at lease 5cm space for thermal issue.

### PPC-7615

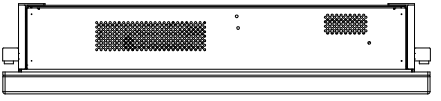
Front View



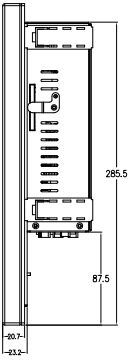

Rear View



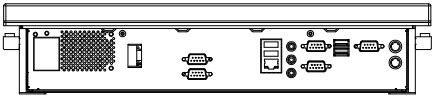
Top View



Side View

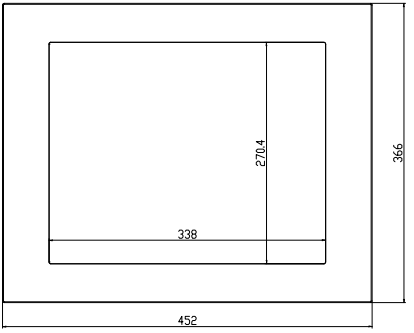



Bottom View

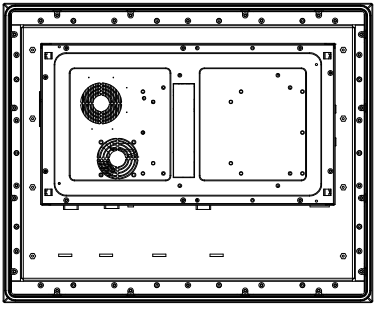


## PPC-7617

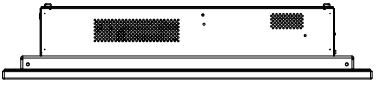
Front View



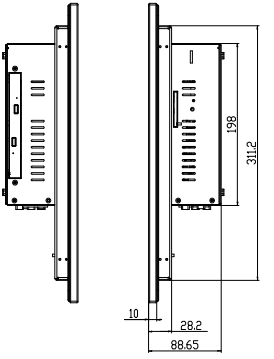

Rear View



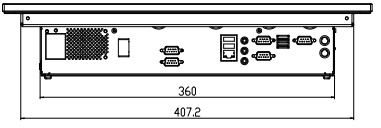
Top View



Side View

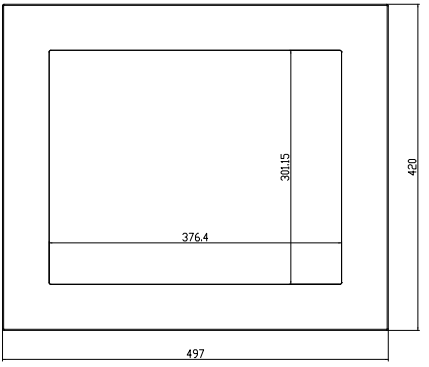



Bottom View

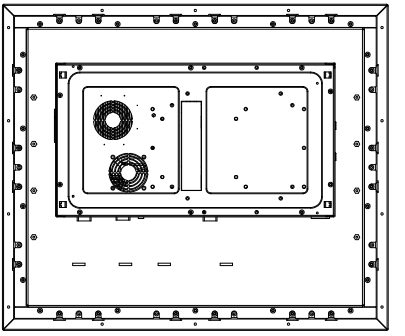


## PPC-7619

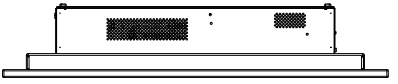
Front View



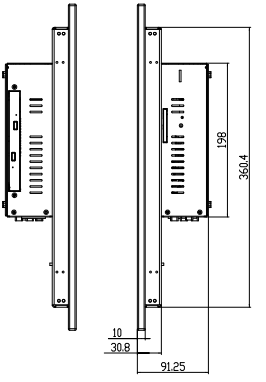

Rear View



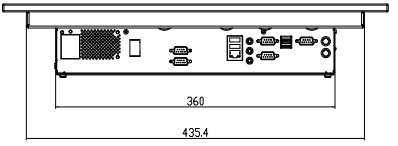
Top View



Side View




Bottom View



## 1-3. SYSTEM SPECIFICATIONS

### MAINBOARD (PROX-B531LF)

- **CPU TYPE:**
  Intel® Core 2 Duo/ Core Solo/ Celeron® M Socket 478 onboard for 65nm CPU (up to 2.16GHz)
  Auto detect voltage regulator.

- **CHIPSET:**
  Intel® 945GME + ICH7R (FSB: 533/667MHz)

- **MEMORY :**
  2 x 200-pin DDR2 SO-DIMM. Support DDR II 667 SDRAM up to 4GB.

- **CACHE :**
  Built-in CPU

- **REAL-TIME CLOCK :**
  256-byte battery backed CMOS RAM.
  Hardware implementation to indicate century rollover.

- **BIOS :**
  Phoenix-AwardBIOS™ for plug & play function
  4Mbytes with VGA BIOS

- **KEYBOARD CONNECTOR :**
  Mini DIN connector.
  Supports for AT/PS2 keyboard.

- **MOUSE CONNECTOR :**
  Mini DIN connector.
  Supports PS/2 Mouse.

- **BUS SUPPORT :**
  1 PCI-E (x16) Slot (SDVO), Mini-PCI, CF (only available if on IDE device attached)

- **DISPLAY :**
  PPC-7615 15" LCD Panel XGA 1024 x 768
  PPC-7617 17" LCD Panel SXGA 1280 x 1024
  PPC-7619 19" LCD Panel SXGA 1280 x 1024

- **WATCHDOG :**
  1~255 seconds Watchdog timer selectable w/Reset/NMI.

- **SERIAL PORT :**
  Four high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs.
  COM1, COM3, COM4 (D-Sub Connector) for RS-232;
  COM2 for RS-232/422/485;
  MIDI Compatible
  Programmable BaudRate Generator

- **LAN ADAPTER :**
  Intel® 82573V (10/100/1000 Mbps).
  Support Wake-On-LAN function.

- **USB CONNECTOR :**
  External: 4 USB ports.
  Internal: 2 USB ports (one for Touch control board)

- **SOUND :**
  Realtek ALC655. AC' 97 Codec.
  Interface: Line_IN, Line_OUT, MIC_IN

- **HARDWARE MONITORING FUNCTION :**
  Monitor Voltage, CPU temperature & cooling fan speed.
  If CPU temperature is over setting the buzzer will send out a warming (only under DOS system)

## LCD PANEL

- **LCD TYPE :**
  According to the supplier's LCD specification.

- **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 :

| | |
|---|---|
| Type | Resistive |
| Resolution | PPC-7615 : 4096 x 4096<br>PPC-7617 : 4096 x 4096<br>PPC-7619 : 4096 x 4096 |
| Hardness | PPC-7615 : 3H<br>PPC-7617 : 3H<br>PPC-7619 : 3H |
| Controller | USB interface |
| Knock Life | 35,000,000 Times |
| Input Voltage | 5V |
| Wire | 5 Wire |

## GENERAL INFORMATION

- **POWER SUPPLY :**
  AC 100V ~240V, 50~60Hz input, ATX 180W output (Built-in)

- **DRIVE BAYS (Optional) :**
  1x Slim HDD
  1x Compact Flash Type-II Slot (IDE, On Board)
  1x Slim CDROM (SATA interface, optional)

- **CONSTRUCTION :**
  Electo Galvanized steel chassis.
  Stainless steel front bezel.

- **DIMENSIONS :**
  PPC-7615 : 403 x 303 x 84mm (15.87”x11.93”x3.31”)
  PPC-7617 : 452 x 366 x 89mm (17.8” x 14.4” x 3.5”)
  PPC-7619 : 497 x 420 x 91.5mm (19.65” x 16.5” 3.6”)

- **NET WEIGHT :**
  PPC-7615 : 7.3KG(16.09lb)
  PPC-7617 : 9.5KG(20.94lb)
  PPC-7619 : 11.5KG(25.35lb)

## 1-4. SAFETY AND NOTIFICATION

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 AC 100V~240V, otherwise the system may be damaged.
2. **Environmental Conditions**
   a. Place your PPC-7615/PPC-7617/PPC-7619 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-7615/PPC-7617/PPC-7619 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 +40°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-7615/PPC-7617/PPC-7619 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.

# *HARDWARE CONFIGURATION*

*CHAPTER*

***2***

## *** QUICK START ***

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

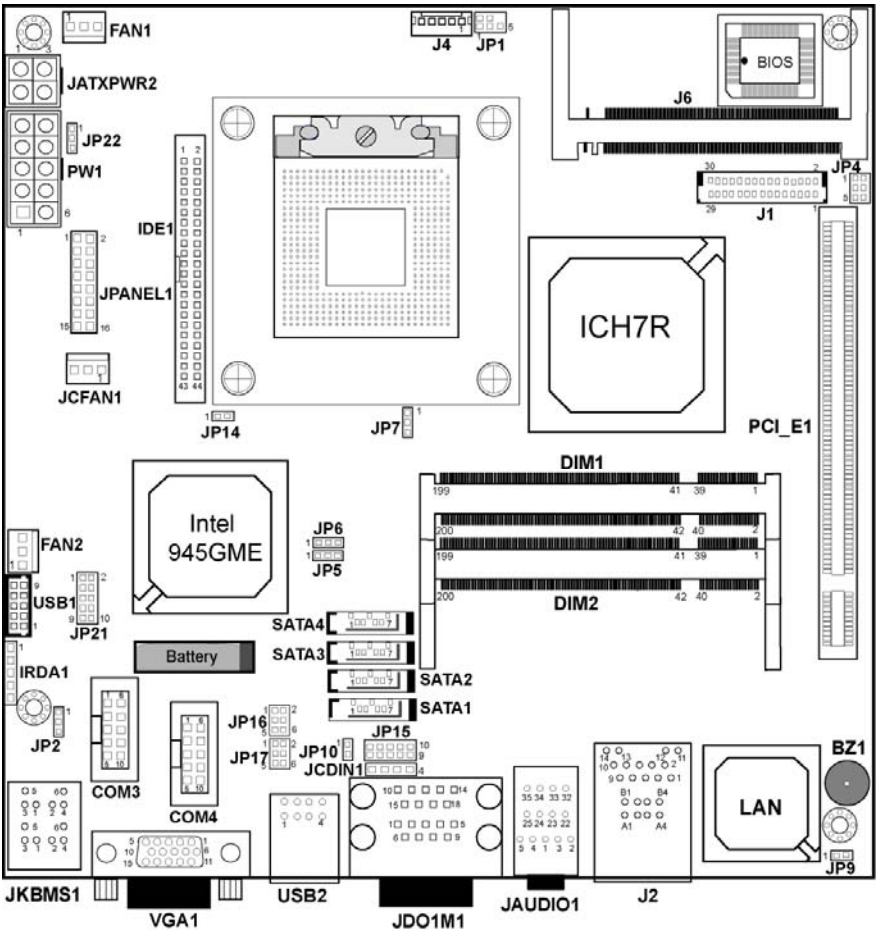
Section includes:

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

## 2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

| | |
|---|---|
| COM Port Connector ……. | COM1,COM2,COM3,COM4 |
| COM3/4 Port RI/Voltage Selection ……... | JP16,JP17 |
| RS232/422/485 (COM2) Selection …… | JP15 |
| Keyboard/Mouse Connector ……. | JKBMS1 |
| Reset Connector …… | JPANEL1 ( 13，15 ) |
| Hard Disk Drive LED Connector ……. | JPANEL1 ( 09，11 ) |
| Power Button …….. | JPANEL1 ( 14，16 ) |
| External Speaker Connector …… | JPANEL1 ( 1，3，5，7 ) |
| Power LED Connector …… | JPANEL1 ( 08，10，12 ) |
| Clear CMOS Data Selection …… | JP2 |
| CPU Fan Connector …… | FAN1 |
| System Fan Connector …… | FAN2, JCFAN1 |
| Hard Disk Drive Connector …… | IDE1 |
| VGA Connector …….. | VGA1 |
| Serial ATA Connector …… | SATA1,SATA2,SATA3, SATA4 |
| Universal Serial Bus Connector …….. | USB1, USB2 |
| USB & LAN Connector …….. | J2 |
| IRDA Connector ……. | IRDA1 |
| ATX Power Connector …… | PW1, JATXPWR2 |
| Sound Connector …….. | JAUDIO1 |
| CD Audio-In Connector …….. | JCDIN1 |
| LVDS Connector …….. | J1 |
| Inverter Connector …… | J4 |
| LVDS Panel Voltage Selection ……. | JP4 |
| FSB Frequency Selection …….. | JP5，JP6，JP7 |
| Power State Selection ……..……. | JP22, JP10, JP21 |
| Reset/NMI Watchdog Selection …… | JP21 |
| CF Card Master/ Slave Selecction ……. | JP14 |
| TV Out Connector ……. | JP1 |
| Memory Installation …….. | DIM1, DIM2 |
| PCI-Express Card Selection …….. | JP9 |

## 2-2. COMPONENT LOCATIONS



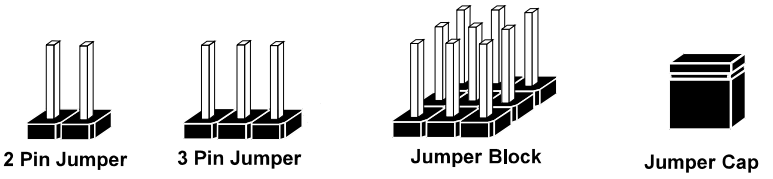

**PPC-7615/PPC-7617/PPC-7619 Connector, Jumper and Component locations**

## 2-3. HOW TO SET THE JUMPERS

You can configure your board by setting 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 "open" or "close" 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.

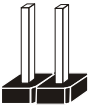
### JUMPERS AND CAPS




If a jumper has three pins (for examples, labelled PIN1, PIN2, and PIN3), You can connect PIN1 & PIN2 to create one setting by 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.

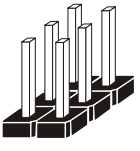
## JUMPER DIAGRAMS

**Jumper Cap looks like this**

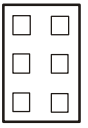


**2 pin Jumper looks like this**

**3 pin Jumper looks like this**

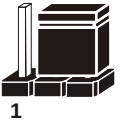


**Jumper Block looks like this**



## JUMPER SETTINGS

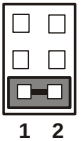

**2 pin Jumper close(enabled) Looks like this**


**3 pin Jumper 2-3 pin close(enabled) Looks like this**

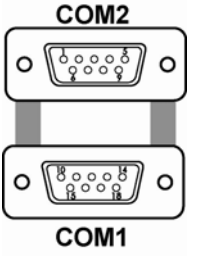


**Jumper Block 1-2 pin close(enabled) Looks like this**



## 2-4. COM PORT CONNECTOR

**COM1 :** COM1 Connector
COM1 is fixed as RS-232.
The pin assignment is as follows :

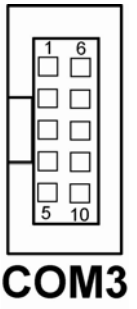



| PIN | ASSIGNMENT |
|---|---|
| 1 | DCD1 |
| 2 | RX1 |
| 3 | TX1 |
| 4 | DTR1 |
| 5 | GND |
| 6 | DSR1 |
| 7 | RTS1 |
| 8 | CTS1 |
| 9 | RI1 |

**COM2 :** COM2 Connector
The COM2 is selectable as RS-232/422/485.
The pin assignment is 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 |

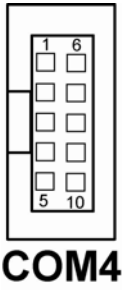
**COM3 :** COM3 Connector
COM3 is fixed as RS-232.
The pin assignment is as follows :




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

📖 COM3's pin 9 is selectable for RI, +5V or +12V. For more information, please refer to our "2-5 COM RI and Voltage Selection".

**COM4 :** COM4 Connector
COM4 is fixed as RS-232.
The pin assignment is as follows :

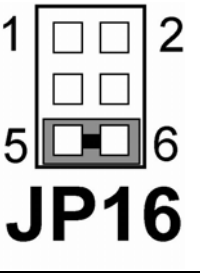
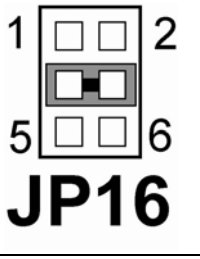
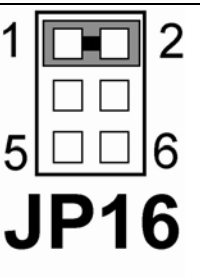



| PIN | ASSIGNMENT |
|---|---|
| 1 | DCD4 |
| 2 | RX4 |
| 3 | TX4 |
| 4 | DTR4 |
| 5 | GND |
| 6 | DSR4 |
| 7 | RTS4 |
| 8 | CTS4 |
| 9 | RI4 |
| 10 | NC |

📖 COM4's pin 9 is selectable for RI, +5V or +12V. For more information, please refer to our "2-5 COM RI and Voltage Selection".

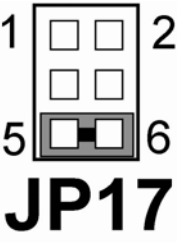
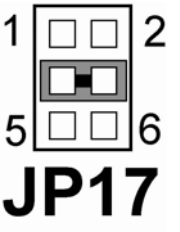
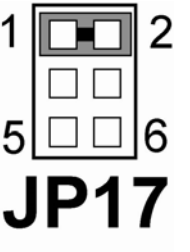
## 2-5. COM3/4 RI & VOLTAGE SELECTION

**JP16** : COM3 RI & Voltage Selection
The selections are as follows:

| COM | SELECTION | JUMPER SETTINGS | JUMPER ILLUSTRATION |
|---|---|---|---|
| COM3 | 5V | 5-6 |  |
| | 12V | 3-4 |  |
| | RI | 1-2 |  |

***Manufacturing Default -- RI.

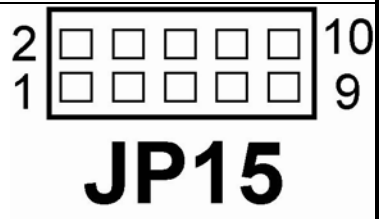
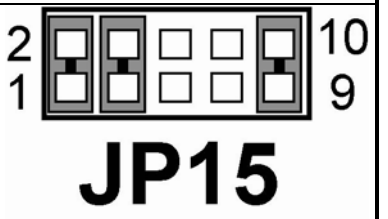
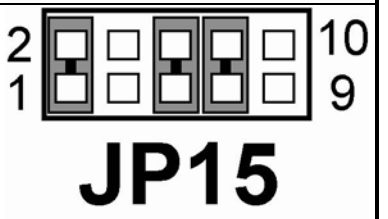
**JP17** : COM4 RI & Voltage Selection
The selections are as follows:

| COM | SELECTION | JUMPER SETTINGS | JUMPER ILLUSTRATION |
|---|---|---|---|
| COM4 | 5V | 5-6 |   |
| | 12V | 3-4 |   |
| | RI | 1-2 |   |

***Manufacturing Default -- RI.

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

**JP15 :** RS-232/422/485 (COM2) Selection
This connector is used to set the COM2 function.
The jumper settings are as follows :

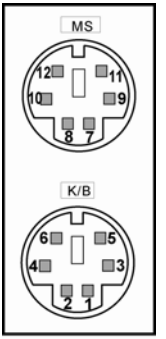
| COM 2 Function | Jumper Settings (pin closed) | Jumper Illustrations |
|---|---|---|
| RS-232 | All Open |   |
| RS-422 | 1-2, 3-4, 9-10 |   |
| RS-485 | 1-2, 5-6, 7-8 |   |

*** Manufacturing default -- RS-232.

## 2-7. PS/2 KEYBOARD AND MOUSE CONNECTOR

**JKBMS1 :** PS/2 Keyboard and Mouse Connector
The pin assignments are as follows :

| PIN | ASSIGNMENT |
|---|---|
| 1 | KBDATA |
| 2 | NC |
| 3 | GND |
| 4 | 5VSB |
| 5 | KBCLK |
| 6 | NC |
| 7 | MSDATA |
| 8 | NC |
| 9 | GND |
| 10 | 5VSB |
| 11 | MSCLK |
| 12 | NC |

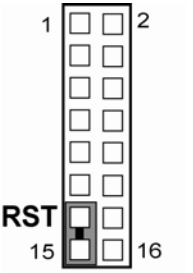


JKBMS1

## 2-8. RESET CONNECTOR

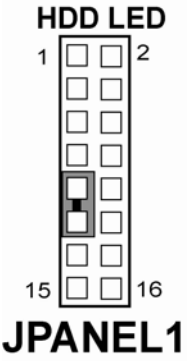
**JPANEL1 (13, 15) :** Reset Connector.
The pin assignment is as follows :

| PIN | ASSIGNMENT |
|---|---|
| 13 | GND |
| 15 | RST_BTN |



JPANEL1

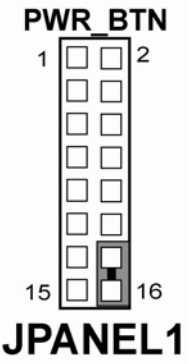
## 2-9. HARD DISK DRIVE LED CONNECTOR




**JPANEL1 (9, 11) :** Hard Disk Drive LED Connector
The pin assignment is as follows :

| PIN | ASSIGNMENT |
|---|---|
| 9 | HD_LED+ |
| 11 | HD_LED- |

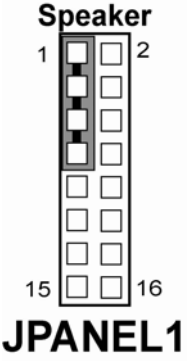
## 2-10. ATX POWER BUTTON




**JPANEL1 (14, 16) :** ATX Power Button
The pin assignment is as follows :

| PIN | ASSIGNMENT |
|---|---|
| 14 | PW_BN1 |
| 16 | PW_BN2 |

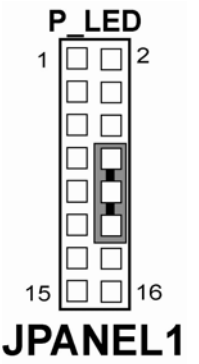
## 2-11. EXTERNAL SPEAKER CONNECTOR




**JPANEL1 (1, 3, 5, 7) :** External Speaker Connector
The pin assignment is as follows :

| PIN | ASSIGNMENT |
|---|---|
| 1 | P_SPK |
| 3 | NC |
| 5 | NC |
| 7 | VCC |

## 2-12. POWER LED CONNECTOR




**JPANEL1 (8, 10, 12) :** Power LED Connector
The pin assignment is as follows:

| PIN | ASSIGNMENT |
|---|---|
| 8 | PW_LED+ |
| 10 | PW_LED+ |
| 12 | PW_LED- |

## 2-13. CLEAR CMOS DATA SELECTION

**JP2 :** Clear CMOS Data Selection
The selections are as follows :

| FUNCTION | JUMPER SETTING (pin closed) | JUMPER ILLUSTRATION |
|---|---|---|
| Keep CMOS | 1-2 |   |
| Clear CMOS | 2-3 |   |

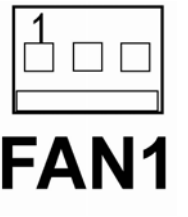
*** Manufacturing Default – Keep CMOS.

Note: 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.

## 2-14. CPU FAN CONNECTOR

**FAN1 :** CPU Fan connector
The pin assignment is as follows:

| PIN | ASSIGNMENT |
|---|---|
| 1 | LPC1_FANPWM1 |
| 2 | +12V |
| 3 | LPC1_FANIO1 |




## 2-15. SYSTEM FAN CONNECTOR

**FAN2**：System Fan connector
The pin assignment is as follows：

| PIN | ASSIGNMENT |
|---|---|
| 1 | LPC1_FANPWM2 |
| 2 | +12V |
| 3 | LPC1_FANIO2 |


**JCFAN1**：System Fan connector
The pin assignment is as follows：

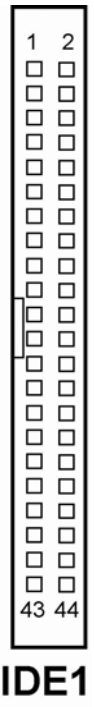
| PIN | ASSIGNMENT |
|---|---|
| 1 | GND |
| 2 | +12V |
| 3 | NC |

## 2-16. HARD DISK DRIVE CONNECTOR

The PPC7615/7617/7619 possesses one HDD connector: IDE1.

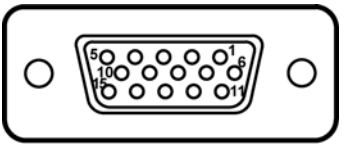
**IDE1:** Hard Disk Drive Connector
The pin assignments are as follows:

| PIN | ASSIGNMENT | PIN | ASSIGNMENT |
|---|---|---|---|
| 1 | IDERST | 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 | PDREQ | 22 | GND |
| 23 | PDIOW# | 24 | GND |
| 25 | PDIOR# | 26 | GND |
| 27 | PIORDY | 28 | PD_CSEL |
| 29 | PDDACK# | 30 | GND |
| 31 | IRQ14 | 32 | NC |
| 33 | PDA1 | 34 | P66 DETECT |
| 35 | PDA0 | 36 | PDA2 |
| 37 | PDCS1# | 38 | PDCS3# |
| 39 | IDEACTN | 40 | GND |
| 41 | VCC | 42 | VCC |
| 43 | GND | 44 | GND |



## 2-17. VGA CONNECTOR

**VGA1:** VGA Connector
The pin assignments are as follows:




VGA1

| 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 |

## 2-18. SERIAL ATA CONNECTOR

**SATA1~SATA4:** The PPC-7615/ PPC-7617/ PPC-7619 possesses four Serial ATA Connector, SATA1~SATA4. The pin assignments are as follows:

**SATA1**：SATA Connector
The pin assignments are as follows：

| PIN | ASSIGNMENT |
|---|---|
| 1 | GND |
| 2 | SATA_TXP0 |
| 3 | SATA_TXN0 |
| 4 | GND |
| 5 | SATA_RXN0 |
| 6 | SATA_RXP0 |
| 7 | GND |


**SATA2**：SATA Connector
The pin assignments are as follows：

| PIN | ASSIGNMENT |
|---|---|
| 1 | GND |
| 2 | SATA_TXP1 |
| 3 | SATA_TXN1 |
| 4 | GND |
| 5 | SATA_RXN1 |
| 6 | SATA_RXP1 |
| 7 | GND |

**SATA3**：SATA Connector
The pin assignments are as follows：


| PIN | ASSIGNMENT |
|---|---|
| 1 | GND |
| 2 | SATA_TXP2 |
| 3 | SATA_TXN2 |
| 4 | GND |
| 5 | SATA_RXN2 |
| 6 | SATA_RXP2 |
| 7 | GND |

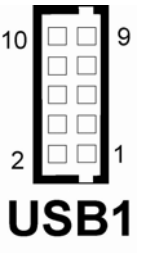
**SATA4**：SATA Connector
The pin assignments are as follows：


| PIN | ASSIGNMENT |
|---|---|
| 1 | GND |
| 2 | SATA_TXP3 |
| 3 | SATA_TXN3 |
| 4 | GND |
| 5 | SATA_RXN3 |
| 6 | SATA_RXP3 |
| 7 | GND |

## 2-19. UNIVERSAL SERIAL BUS CONNECTOR

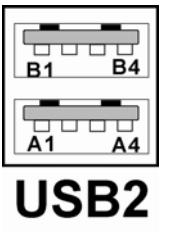
**USB1**：Universal Serial Bus Connector
The pin assignments are as follows：

| PIN | ASSIGNMENT |
|---|---|
| 1 | VCCUSB2 |
| 2 | VCCUSB2 |
| 3 | USB4N |
| 4 | USB5N |
| 5 | USB4P |
| 6 | USB5P |
| 7 | GND |
| 8 | GND |
| 9 | GND |
| 10 | GND |

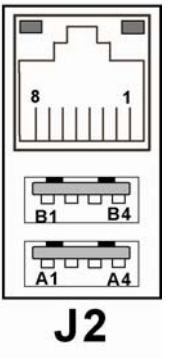



**JUSB2**：Universal Serial Bus Connector
The pin assignments are as follows：

| PIN | ASSIGNMENT |
|---|---|
| A1 | VCCUSB1 |
| A2 | USB0N |
| A3 | USB0P |
| A4 | GND |
| B1 | VCCUSB1 |
| B2 | USB1N |
| B3 | USB1P |
| B4 | GND |



## 2-20. USB&LAN CONNECTOR




**J2**：USB & LAN Connector
The pin assignments are as follows：

LAN:

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

LAN LED Indicator:
Left side LED:

| | |
|---|---|
| Green Color on | 10/100 LAN Speed Indicator |
| Orange Color on | Giga LAN Speed Indicator |
| off | No LAN switch/hub connected |

Right side LED:

| | |
|---|---|
| Yellow Color Blinking | LAN Message Active |
| off | No LAN Message Active |

USB Signal：

| PIN | ASSIGNMENT |
|---|---|
| A1 | VCCUSB0 |
| A2 | USB2N |
| A3 | USB2P |
| A4 | GND |
| B1 | VCCUSB0 |
| B2 | USB3N |
| B3 | USB3P |
| B4 | GND |

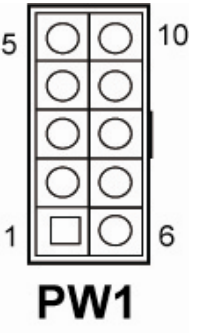
## 2-21. IRDA CONNECTOR

**IRDA1**: IrDA (Infrared) Connector
The pin assignments are as follows:


| PIN | ASSIGNMENT |
|---|---|
| 1 | +5V |
| 2 | NC |
| 3 | IRRX |
| 4 | GND |
| 5 | IRTX |

## 2-22. ATX POWER CONNECTOR

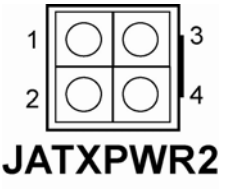
**PW1**：ATX 12V Connector
The pin assignments are as follows：




| PIN | ASSIGNMENT |
|---|---|
| 1 | +5V |
| 2 | +5V |
| 3 | GND |
| 4 | GND |
| 5 | +12V |
| 6 | 5VSB |
| 7 | +5V |
| 8 | GND |
| 9 | PS-ON |
| 10 | NC |

**ATXPWR2**：ATX Connector
The pin assignments are as follows：

| PIN | ASSIGNMENT |
|---|---|
| 1 | GND |
| 2 | GND |
| 3 | +12V |
| 4 | +12V |




## 2-23. SOUND CONNECTOR

**JAUDIO1 :** Sound Connector
The pin assignments are as follows：
SPDIF (inside the Line-In hole)

| PIN | ASSIGNMENT |
|---|---|
| 42 | GND |
| 43 | VCC |
| 44 | AC_SPDIF0 |

Line-In: light blue color

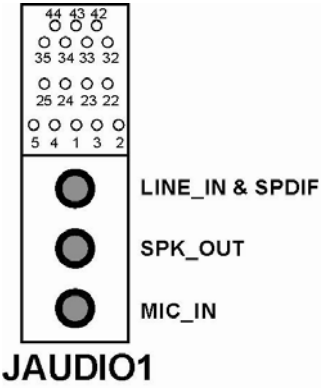
| PIN | ASSIGNMENT |
|---|---|
| 32 | LINE_L |
| 35 | LINE_R |

SPK-Out: light green color

| PIN | ASSIGNMENT |
|---|---|
| 22 | SPK_L |
| 25 | SPK_R |

Mic-In: pink color

| PIN | ASSIGNMENT |
|---|---|
| 1 | GND |
| 2 | MIC_IN1 |
| 5 | MIC_IN2 |



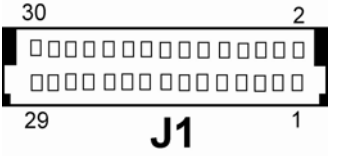
## 2-24. AUDIO CD-IN CONNECTOR

**JCDIN1**：Audio CD-In Connector
The pin assignments are as follows：


| PIN | ASSIGNMENT |
|---|---|
| 1 | CD L |
| 2 | CDGND |
| 3 | CDGND |
| 4 | CD R |

## 2-25. LVDS CONNECTOR

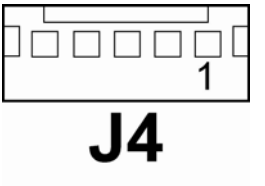
**J1**：LVDS CONNECTOR
The pin assignments are as follows：




| PIN | ASSIGNMENT | PIN | ASSIGNMENT |
|---|---|---|---|
| 1 | LVDS_VCC | 2 | GND |
| 3 | CLKBM | 4 | CLKBP |
| 5 | GND | 6 | YBM2 |
| 7 | YBP2 | 8 | GND |
| 9 | YBM1 | 10 | YBP1 |
| 11 | NC | 12 | NC |
| 13 | YBP0 | 14 | YBM0 |
| 15 | GND | 16 | CLKAP |
| 17 | CLKAM | 18 | GND |
| 19 | YAP2 | 20 | YAM2 |
| 21 | GND | 22 | YAP1 |
| 23 | YAM1 | 24 | GND |
| 25 | YAP0 | 26 | YAM0 |
| 27 | NC | 28 | NC |
| 29 | LVDS_VCC | 30 | LVDS_VCC |

## 2-26. INVERTER CONNECTOR

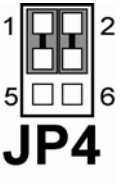
**J4**：LVDS Panel Voltage Selection.
The pin assignments are as follows：




| PIN | ASSIGNMENT |
|---|---|
| 1 | +12V |
| 2 | GND |
| 3 | VCC |
| 4 | GND |
| 5 | ENABKL (Inverter backlight ON/OFF control signal) |

## 2-27. LVDS PANEL VOLTAGE SELECTION

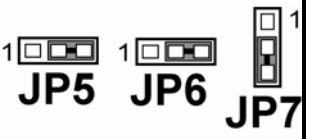
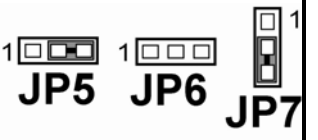
**JP4**：LVDS Panel Voltage Selection.
The pin assignments are as follows：

| SELECTION | JUMPER SETTING (pin closed) | JUMPER ILLUSTRATION |
|---|---|---|
| +3.3V | 1-3<br>2-4 |  |
| +5V | 3-5<br>4-6 |  |

*** Manufacturing Default – +3.3V.

## 2-28. FSB FREQUENCY SELECTION

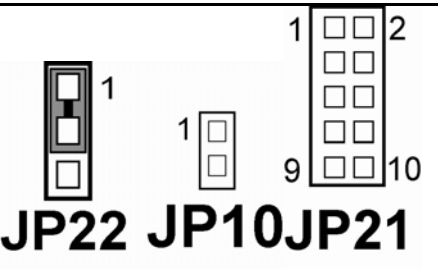
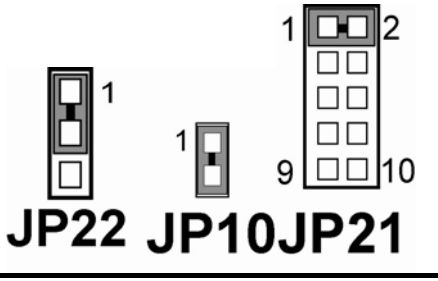
**JP5, JP6, JP7**：FSB Frequency Selections.
The pin assignments are as follows：

| SELECTION | JUMPER SETTING (pin closed) | | | JUMPER ILLUSTRATION |
|---|---|---|---|---|
| | JP5 | JP6 | JP7 | |
| 533 MHz | 2-3 | 2-3 | 2-3 |  |
| 667 MHz | 2-3 | open | 2-3 |  |

*** Manufacturing Default – 667 MHz.

## 2-29. POWER STATE SELECTION

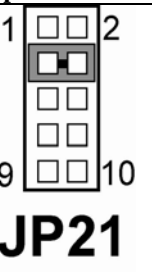
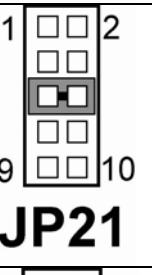
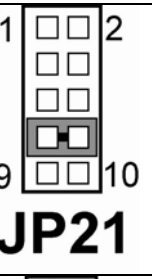
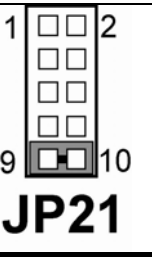
**JP22, JP10, JP21**：Power State Selections.
The pin assignments are as follows：

| Selections | Jumper Setting | | | Jumper Illustrations |
|---|---|---|---|---|
| | **JP22** | **JP10** | **JP21** | |
| ATX | 1-2 | open | Open |   |
| AT | 1-2 | close | 1-2 |   |

*** Manufacturing Default – ATX.
*** JP21 Pin1 ~ Pin 2: Power State Selection
JP21 Pin 3 ~ Pin 8: Reset/ NMI Selection

## 2-30. RESET/ NMI SELECTIONS

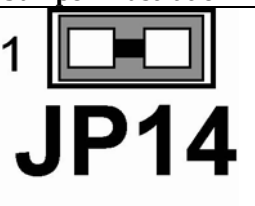
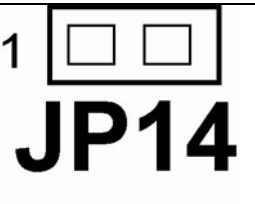
**JP21**：Reset/ NMI Selections.
The pin assignments are as follows：

| Selections | Jumper Setting | Jumper Illustration |
|---|---|---|
| RESET | 3-4 CLOSE |  |
| NMI | 5-6 CLOSE |  |
| CLEAR WDG | 7-8 CLOSE |  |
| GPIO For Customer Application | 9-10 |  |

*** Manufacturing Default –RESET.

## 2-31. CF CARD MASTER/SLAVE SELECTIONS

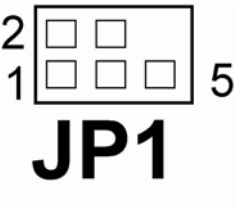
**JP14**：CF Card Master/ Slave Selection.
The pin assignments are as follows：

| Selections | Jumper Setting | Jumper Illustration |
|---|---|---|
| Master | Close |  |
| Slave | Open |  |

*** Manufacturing Default – Slave.

## 2-32. TV OUT CONNECTOR

**JP1**：TV OUT CONNECTOR
The pin assignments are as follows：




| PIN | ASSIGNMENT |
|---|---|
| 1 | Luminance(Y) |
| 2 | CVBS |
| 3 | GND |
| 4 | GND |
| 5 | Chrominance(UV) |

## 2-33. MEMORY INSTALLATION

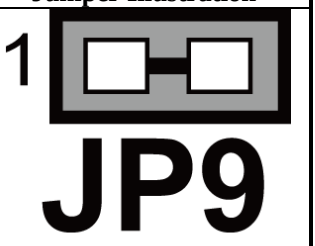
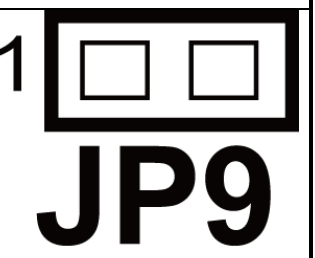
PPC-7615/ PPC-7617/ PPC-7619 CPU Card can support up to 2GB in two SODIMM sockets.

**DRAM BANK CONFIGURATION**

| DIMM1 | DIMM2 | Total memory size |
|---|---|---|
| 256 MB | 256 MB | 512 MB |
| 512 MB | 512 MB | 1GB |
| 1GB | 1GB | 2GB |

## 2-34. PCI-EXPRESS CARD SELECTIONS

**JP9**：PCI-Express Card Selection.
The pin assignments are as follows：

| Selections | Jumper Setting | Jumper Illustration |
|---|---|---|
| PCI-E x 1<br>PCI-E x 4 | Close |  |
| PCI-E x 16 | Open |  |

*** Manufacturing Default – PCI-E x 16.

# *SOFTWARE UTILITIES*

*CHAPTER*

***3***

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

Section includes:

- Introduction
- VGA Driver Utility
- Flash BIOS Update
- LAN Driver Utility
- Sound Driver Utility
- Intel® Chipset Software Installation Utility
- Touch Driver Installation Utility
- Watchdog Timer Configuration

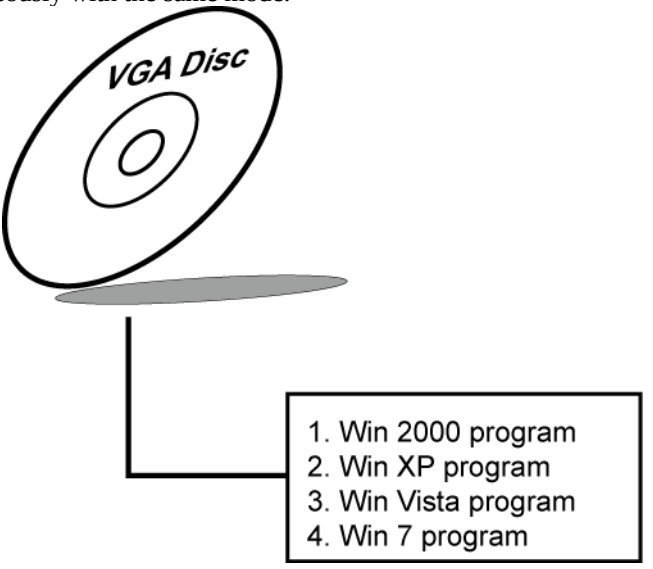
## 3-1. INTRODUCTION

Enclosed with our PPC-7615/ PPC-7617/ PPC-7619 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:\Driver\VGA | Intel 945GME<br>For VGA driver installation |
| D:\Driver\FLASH | For BIOS update utility |
| D:\Driver\LAN | Intel® 82573V<br>For LAN Driver installation |
| D:\Driver\Sound | Realtek ALC655<br>For Sound driver installation |
| D:\Driver\UTILITY | Intel® Chipset Software Installation Utility<br>For Win 2000, XP,Server2003, Vista |
| D:\Driver\Touch | Touchkit utility<br>For Touch Driver installation |
| D:\Driver\Wireless | Ralink RT2561t<br>For Wireless Driver installation |
| D:\Driver\USB 20 | USB 2.0 Software Installation Utility<br>For Win 2000, XP |
| D:\Driver\ Matrix Storage manager | Matrix Storage manager<br>For XP, Server2003, Vista32, Vista 64 |
| D:\Driver\ RAID AHCI | Intel F6 Floppy Utility<br>For XP, Server2003 Vista32, Vista 64 |

## 3-2. VGA DRIVER UTILITY

The VGA interface embedded with our PPC-7615/ PPC-7617/ PPC-7619 can support a wide range of display. You can display CRT, LVDS simultaneously with the same mode.




**3-3-1. Installation of VGA Driver:**

To install the VGA Driver, simply follow the following steps:

(1). Place insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
(2). Under Windows 2000/XP/Vista/7 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.

## 3-3. FLASH BIOS UPDATE

### 3-3-1. Introduction

Users of PPC-7615/ PPC-7617/ PPC-7619 can use the program "Awdflash.exe" contained in the Utility Disk for system BIOS update.

### 3-3-2. 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 7615xxxx.bin
3. The screen will display the table below:

| FLASH MEMORY WRITER V7.XX<br>(C) Award Software 2001 All Rights Reserved |
|---|
| Flash Type -49LF004B<br>File Name to Program: 7615xxxx.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<br>(C) Award Software 2001 All Rights Reserved |
|---|
| Flash Type - 49LF004B<br>File Name to Program: 7615xxxx.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:

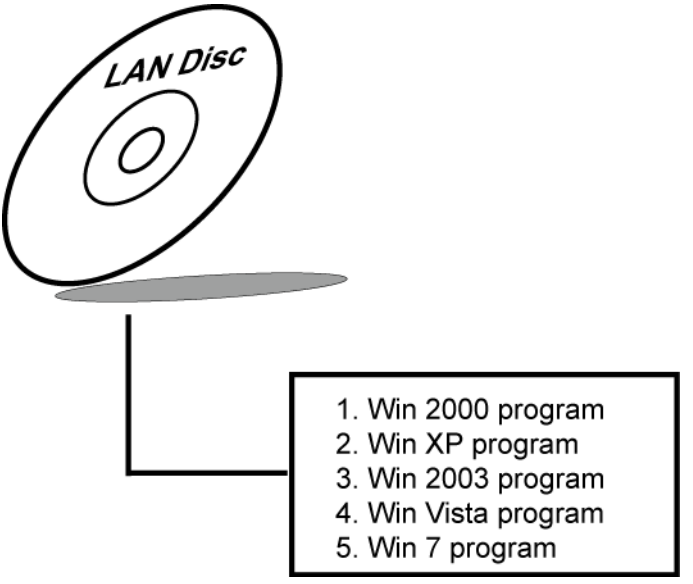
| FLASH MEMORY WRITER V7.XX<br>(C) Award Software 2001 All Rights Reserved |
|---|
| Flash Type –49LF004B<br><br>File Name to Program: 7615xxxx.bin<br><br>Verifying Flash Memory – 7FFFF OK<br><br>☐Write OK ☐No Update ☐Write Fail |
| F1: Reset F10: Exit |

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

## 3-4. LAN DRIVER UTILITY

### 3-4-1. Introduction

The PPC-7615/ PPC-7617/ PPC-7619 Panel PC is enhanced with LAN function that can support various network adapters. Installation programs for LAN drivers are listed as follows:

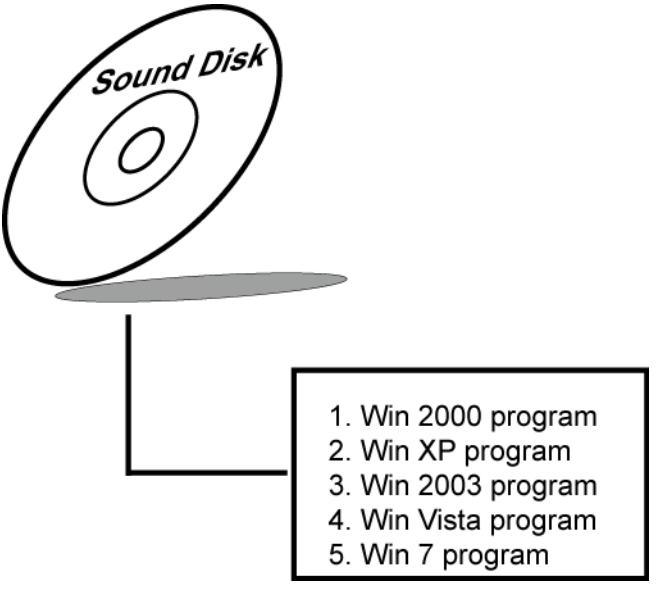



**For more details on Installation procedure, please refer to Readme.txt file found on LAN DRIVER UTILITY.**

## 3-5. SOUND DRIVER UTILITY

### 3-5-1. Introduction

The Realtek ALC655 sound function enhanced in this system is fully compatible with Windows 2000, Windows XP, Windows 2003, Windows Vista, and Windows 7. Below, you will find the content of the Sound driver :




### 3-5-2. Installation Procedure for Windows 2000/XP/2003/Vista/7

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.

# 3-6. INTEL® CHIPSET SOFTWARE INSTALLATION UTILITY

## 3-6-1. Introduction

The Intel® Chipset Software Installation Utility installs to the target system the Windows* INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

- Core PCI and ISAPNP Services
- AGP Support
- IDE/ATA33/ATA66/ATA100 Storage Support
- USB Support
- Identification of Intel® Chipset Components in Device Manager

## 3-6-2. Installation of Utility for Windows XP/2003/Vista

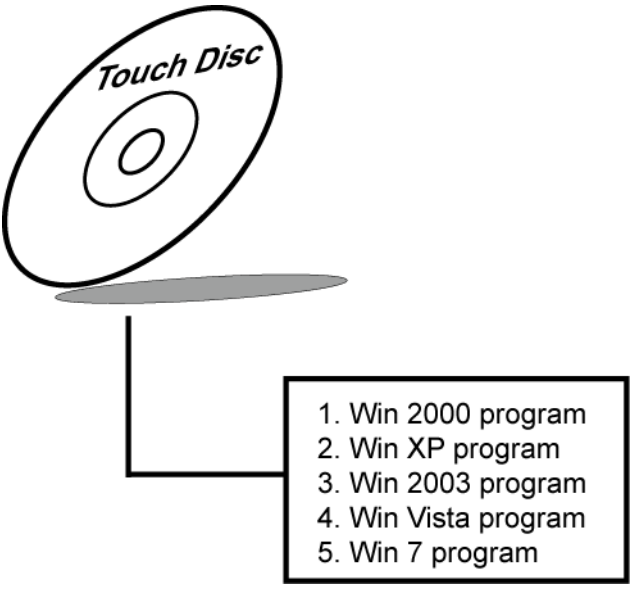
The Utility Pack is to be installed only for Windows XP, 2003, Vista program.
It should be installed right after the OS installation, kindly follow the following steps:

1. Place insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
2. Under Windows XP, 2003, Vista system, go to the directory where Utility Disc is located.
3. Click **Setup.exe** file for utility 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.

# 3-7. TOUCH DRIVER INSTALLATION UTILITY

### 3-7-1. Installation of Utility for Windows2000/XP/2003

The touchscreen driver utility is to be installed only for Windows 2000, Windows XP, Windows 2003, Windows Vista, and Windows 7 program.




It should be installed right after the OS installation, kindly follow the following steps:

1. Please insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
2. Under Windows 2000/XP/2003/Vista/7 system, go to the directory where Utility Disc is located.
3. Click **Setup.exe** file for utility installation.
4. Follow the instructions on the screen to complete the installation.
5. Once installation is completed, shut down the system and restart it in order to complete the changes.

## 3-8. WATCHDOG TIMER CONFIGURATION

The Watch-dog Timer has a programmable time-out ranging from 1 to 255 minutes with one minute resolution, or 1 to 255 seconds with 1 second resolution. The units of the WDT timeout value are selected via bit[7] of the WDT_TIMEOUT register, which is located on I/O Port address 0x865h. The WDT time-out value is set through the WDT_VAL Runtime register, which is located on I/O Port address 0x866h. Setting the WDT_VAL register to 0x00 disables the WDT function Setting the WDT_VAL to any other non-zero value will cause the WDT to reload and begin counting down from the value loaded. Setting the Register located on I/O address 0x867h and 0x868h as 00h to finish timer configuration.

### Example Program

Example Code:

(1)

```
; ----------------------------------------------------------------------------------------------
; Enable Watch-Dog Timer
;----------------------------------------------------------------------------------------------
        mov     dx, (800h+65h)      ; Time counting Unit minute or second
        mov     al, 80h             ; al = 00h : minute, or al = 80h : second
        out     dx, al
        mov     dx, (800h+66h)
        mov     al, 20              ; al = Watch Dog Timer Second (s) , 20 sec(s)
        ou      dx, al
        mov     dx, (800h+67h)
        mov     al, 00h
        out     dx, al
        mov     dx, (800h+68h)      ; Start Watch Dog Timer
        mov     al, 00h
        out     dx, al
```

(2)

```
;----------------------------------------------------------------------------------------------
; Disable Watch-Dog Timer
;----------------------------------------------------------------------------------------------
        mov     dx, (800h+66h)      ; Disabled Watch Dog
        mov     al, 00h
        out     dx, al
        mov     dx, (800h+67h)
        mov     al, 00h
        out     dx, al
        mov     dx, (800h+68h)      ; Clear Status Bit
        mov     al, 00h
        out     dx, al
```

# 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 Configuration
- PC Health Status
- Load Fail-Safe Defaults
- Load Optimized Defaults
- Password Setting
- Save and Exit Setup
- Exit Without Saving

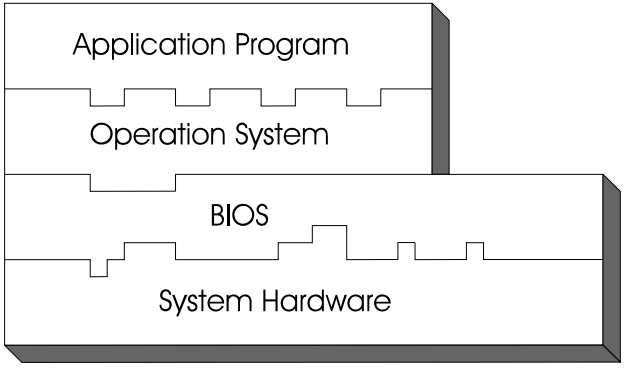
## 4-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The PPC-7615/ PPC-7617/ PPC-7619 are equipped with the BIOS for system chipset from Phoenix -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 <DEL> TO ENTER SETUP, ESC TO SKIP MEMORY TEST**

As long as this message is present on the screen you may press the <Del> 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 | Load Fail-Safe Defaults |
| ►Advanced BIOS Features | Load Optimized Defaults |
| ►Advanced Chipset Features | Set Supervisor Password |
| ►Integrated Peripherals | Set User Password |
| ►Power Management Setup | Save & Exit Setup |
| ►PnP/PCI Configurations | Exit Without Saving |
| ►PC Health Status | |
| Esc : Quit<br>F10 : Save & Exit Setup | ↑↓→← : Select Item |
| 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) | Sun, Feb 2 2003 | Item Help |
| Time (hh:mm:ss) | 21 : 3 : 7 | Menu Level ► |
| ► IDE Channel 0 Master | [ST9160314AS] | Change the day, month, year and century |
| ► IDE Channel 0 Slave | [CD-224S-R] | |
| ► IDE Channel 1 Master | [ None] | |
| ► IDE Channel 1 Slave | [ None] | |
| Video | [EGA/VGA] | |
| Halt On | [All Errors] | |
| Base Memory | 640K | |
| Extended Memory | 1038336K | |
| Total Memory | 1039360K | |

↑↓→←: 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 Channel 0 Master / Slave:**
**IDE Channel 1 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.

**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

| | | |
|---|---|---|
| ► Hard Disk Boot Priority | [Press Enter] | Item Help |
| First Boot Device | [LS120] | |
| Second Boot Device | [Hard Disk] | Menu Level ► |
| Third Boot Device | [LS120] | |
| Boot Other Device | [Enabled] | Select Hard Disk Boot Device Priority |
| Security Option | [Setup] | |
| APIC Mode | [Enabled] | |
| MPS Version Control For OS | [1.4] | |

↑↓→←: 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 Screen**

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

A brief introduction of each setting is given below.

**HARD DISK BOOT PRIORITY:**

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
Hard Disk Boot Priority

| | |
|---|---|
| 1. Ch0 M. : ST9160614AS<br>2. Bootable Add-in Cards | Item Help |
| | Menu Level ► |
| | Use<↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu. |
| ↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help<br>F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults | |

Select Hard Disk Boot Device Priority

**FIRST/SECOND/ THIRD/ OTHER BOOT DEVICE:**

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

**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.

**APIC MODE:**

To Enable Advanced Programmable Interrupt Controller

**MPS VERSION CONTROL FOR OS:**

This option is only valid for multiprocessor motherboards as it specifies the version of the Multiprocessor Specification (MPS) that the motherboard will use. The MPS is a specification by which PC manufacturers design and build Intel architecture systems with two or more processors.

## 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 | [By SPD] | Item Help |
| X CAS Latency Time | [Auto] | |
| X DRAM RAS# to CAS# Delay | [Auto] | |
| X DRAM RAS# Precharge | [Auto] | Menu Level ► |
| X Precharge dealy (tRAS) | [Auto] | |
| X System Memory Frequency | [Auto] | |
| ** VGA Setting ** | | |
| DVMT Mode | [DVMT] | |
| DVMT/ FIXED Memory Size | [128 MB] | |
| Boot Display | [CRT+LFP] | |

↑↓→←: 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.

**DRAM TIMEING 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.

**CAS LATENCY TIME:**

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

**DRAM RAS# TO CAS# DELAY:**

This item let you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The choices are 2 and 3.

**DRAM RAS# PRECHARGE:**

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The choices are 2 & 3.

**PRECHARGE DEALY (tRAS):**

Precharge Delay This setting controls the precharge delay, which determines the timing delay for DRAM precharge

**SYSTEM MEMORY FREQUENCY:**

Allow to choose different frequency of memory module.

**DVMT MODE:**

Intel Dynamic Video Memory Technology Mode.

**DVMT/FIXED MEMORY SIZE:**

DVMT Memory Size Select.

**BOOT DISPLAY:**

To select the boot-up display type.

## 4-6. INTEGRATED PERIPHERALS

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

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals

| | | |
|---|---|---|
| ▶ OnChip IDE Device | [Press Enter] | Item Help |
| ▶ Onboard Device | [Press Enter] | |
| ▶ SuperIO Device | [Press Enter] | Menu Level ▶ |
| Onboard Serial Port 3 | [3E8/IRQ10] | |
| Onboard Serial Port 4 | [2E8/IRQ11] | |
| WatchDog Support | [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.

If bios setup menu item supports USB device boot, it will cause Win9x detects the same storages twice when the system is rebooted, and USB HDD will fail. Note: this cause just happen under Win9x, the phenomenon is a limitation.

**ONCHIP IDE DEVICE:**

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
OnChip IDE Device

| | | Item Help |
|---|---|---|
| IDE HDD Block Mode | [Enabled] | Menu Level ► |
| IDE DMA transfer access | [Enabled] | |
| OnChip Primary PCI IDE | [Enabled] | If your IDE hard drive supports block mode select Enabled for automatic detection of the optional number of block read/writes per sector the drive can support. |
| IDE Primary Master PIO | [Auto] | |
| IDE Primary Slave PIO | [Auto] | |
| IDE Primary Master UDMA | [Auto] | |
| IDE Primary Slave UDMA | [Auto] | |
| OnChip Secondary PCI IDE | [Enabled] | |
| IDE Secondary Master PIO | [Auto] | |
| IDE Secondary Slave PIO | [Auto] | |
| IDE Secondary Master UDMA | [Auto] | |
| IDE Secondary Slave UDMA | [Auto] | |
| *** On-Chip Serial ATA Setting *** | | |
| X SATA Mode | IDE | |
| On-Chip Serial ATA | [Auto] | |
| X PATA IDE Mode | Primary | |
| SATA Port | P1, P3 is Secondary | |

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

Descriptions on each item above are as follows:

1. **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
2. **IDE DMA Transfer Access**
   To Enable/Disable the IDE DMA transfer access
3. **OnChip Primary PCI IDE**
   The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.
4. **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.

5. **SATA Mode:**
   Set the Serial ATA configuration. When set in Advanced Host Controller Interface (AHCI) or RAID mode, the SATA controller is set to Native mode. Configuration options: [IDE] [RAID] [AHCI].
6. **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.
7. **On-Chip Serial ATA:**
   [Disabled]: Disabled SATA Controller.
   [Auto]: Auto arrange by BIOS.
   [Combined Mode]: PATA and SATA are combined. Max.of 2 IDE drives in each channel.
   [Enhanced Mode]: Enable both SATA and PATA. Max.of 6 IDE drives are supported.
   [SATA Only]: SATA is operating in legacy mode.
8. **PATA IDE Mode**
   To select PATA IDE Mode sequence
9. **SATA Port**
   According PATA IDE Mode to determine SATA sequence

**ONBOARD DEVICE:**

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
Onboard Device

| | | |
|---|---|---|
| USB Controller | [Enabled] | Item Help |
| USB 2.0 Controller | [Enabled] | |
| USB Keyboard Support | [Enabled] | Menu Level ► |
| ↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help<br>F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults | | |

Descriptions on each item above are as follows:

1. **USB Controller**
   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.
2. **USB 2.0 Controller**
   Enable the USB 2.0 controller
3. **USB Keyboard Support**
   Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

**SUPER IO DEVICE:**

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
SuperIO Device

| | | |
|---|---|---|
| Onboard Serial Port 1 | [3F8/IRQ4] | Item Help |
| Onboard Serial Port 2 | [2F8/IRQ3] | |
| UART Mode Select | [Normal] | Menu Level ► |
| TxD, RxD Polarity Active | [Lo, Hi] | |
| ↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help<br>F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults | | |

Descriptions on each item above are as follows:

1. **Onboard Serial Port 1/2**
   Select an address and corresponding interrupt for the first and second serial ports.
2. **UART Mode Select**
   This item allows you to select UART mode.
3. **TxD, RxD Polarity Active**
   This item allows you to determine the active of RxD, TxD

**ONBOARD SERIAL PORT 3:**
**ONBOARD SERIAL PORT 4:**

Select a logical COM port name and matching address for the third and forth serial ports. Select an address and corresponding interrupt for third and forth serial port.

**WATCHDOG SUPPORT:**

To select watch-dog times.

## 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 |
| Video Off In Suspend | [Yes] | |
| Soft-Off by PWR-BTTN | [Instant-Off] | |
| PWRON After PWR-Fail | [Off] | |
| | | Menu Level ► |

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

**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).

### 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.

### PWRON AFTER PWR-FAIL:

This item allows you to select if you want to power on the system after power failure. The choice: Off and On

## 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

| | | |
|---|---|---|
| Resources Controlled By | [Auto (ESCD)] | Item Help |
| x IRQ Resources | Press Enter | Menu Level ► |
| | | BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you cannot select IRQ DMA and memory base address fields, since BIOS automatically assigns them. |
| ↑↓→←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help<br>F5: Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults | | |

**PNP/PCI Configuration Setup Screen**

The PNP/PCI Configuration Setup 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.

### 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 and DMA Resources*.

**IRQ RESOURCES:**

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility
IRQ Resources

| | | |
|---|---|---|
| IRQ-3 assigned to | [PCI Device] | Item Help |
| IRQ-4 assigned to | [PCI Device] | |
| IRQ-5 assigned to | [PCI Device] | |
| IRQ-7 assigned to | [PCI Device] | Menu Level ► |
| IRQ-9 assigned to | [PCI Device] | |
| IRQ-10 assigned to | [PCI Device] | Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture |
| IRQ-11 assigned to | [PCI Device] | |
| IRQ-12 assigned to | [PCI Device] | |
| IRQ-14 assigned to | [PCI Device] | |
| IRQ-15 assigned to | [PCI Device] | |
| ↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help<br>F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults | | |

Descriptions on each item above are as follows:

1. **IRQ-n Assigned to:**
   You may assign each system interrupt a type, depending on the type of device using the interrupt.

## 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

| | | |
|---|---|---|
| Shutdown Temperature | [Disabled] | Item Help |
| Current CPU Temerature | 40 C | |
| Vcore | 1.36V | Menu Level ► |
| 5V | 5.01V | |
| 12V | 12.35V | |
| Fan1 Speed | 0 RPM | |
| Fan2 Speed | 0 RPM | |

↑↓→←: 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 PC Health Status Setup allows you to select whether to choose between monitoring or to ignore the hardware monitoring function of your system.

**SHUTDOWN TEMPERATURE:**

This item allows you to set up the CPU shutdown Temperature.

**CURRENT CPU TEMPERATURE:**

This item shows you the current CPU temperature.

**VCORE:**

This item shows you the current system voltage.

**5V / 12V :**

Show you the voltage of5V/12V.

**FAN1/FAN2 SPEED:**

This item shows you the current CPU/ SYSTEM FAN speed.

## 4-10. 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.

## 4-11. 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.

## 4-12. 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

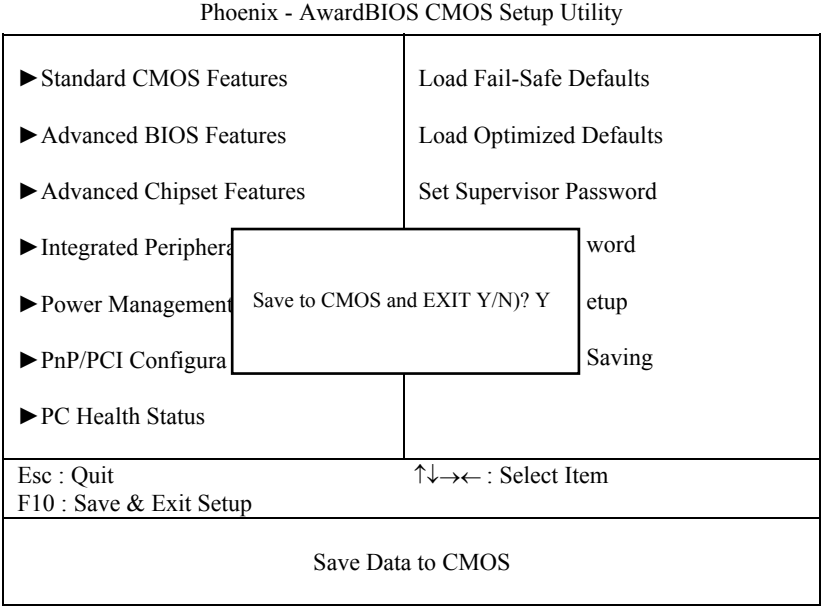
To disable the password, select this function (do not enter any key when you are prompt to enter a password), and press the <Enter> key and a message will appear at the center of the screen:

| PASSWORD DISABLED!!!<br>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.

## 4-13. SAVE & EXIT SETUP

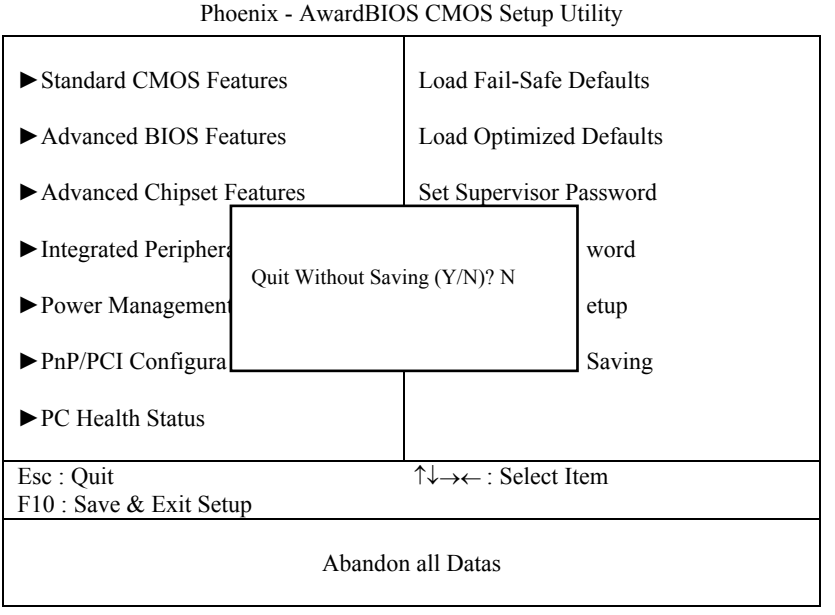
After you have completed adjusting all the settings as required, you must remember to save these setting into the CMOS RAM. To save the settings, select "SAVE & EXIT SETUP" and press <Enter>, a display will be shown as follows:




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 <Del> key during boot up.

## 4-14. 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:



# *SYSTEM ASSEMBLY*

*APPENDIX*

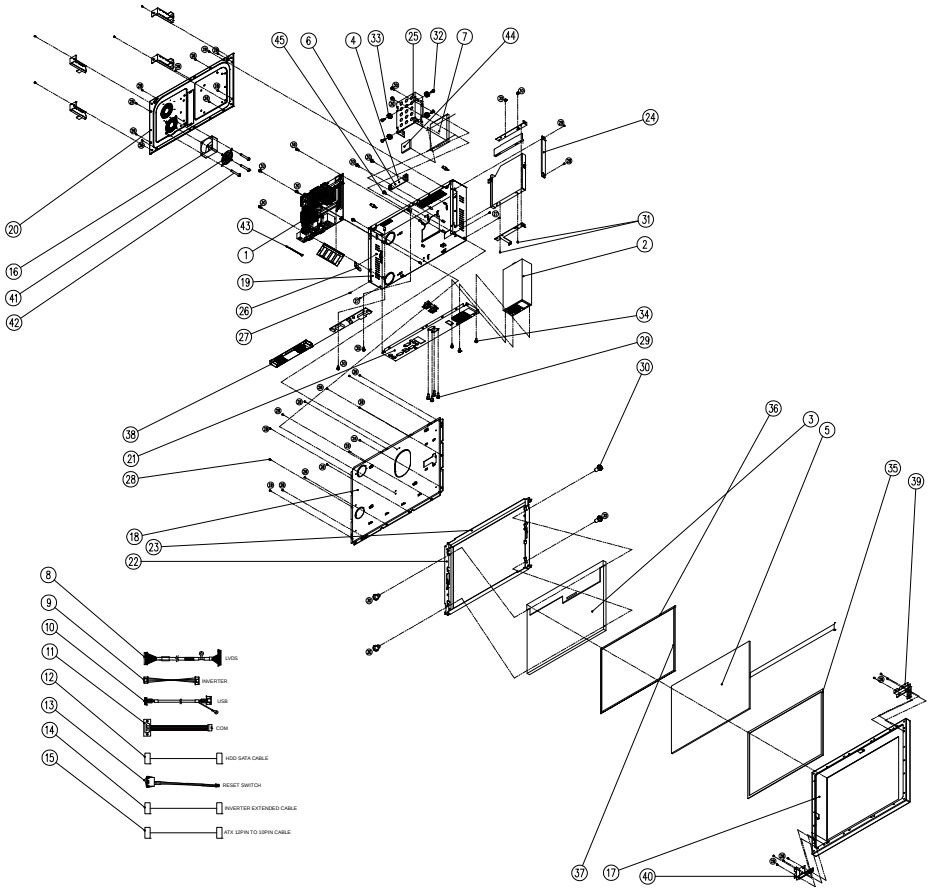
***A***

This appendix contain exploded diagram of the system.

Section includes:

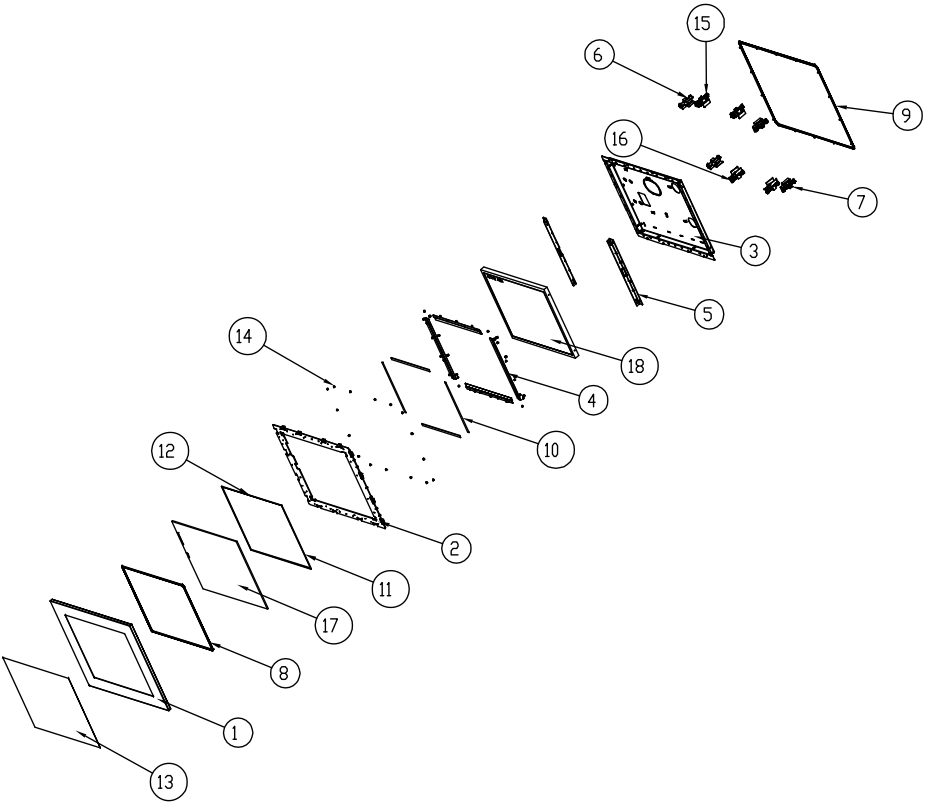
- Exploded Diagram for PPC-7615 Whole System
- Exploded Diagram for PPC-7617 LCD Panel
- Exploded Diagram for PPC-7619 LCD Panel
- Exploded Diagram for PPC-7615/ PPC-7617/ PPC-7619 Packing

# EXPLODED DIAGRAM FOR PPC-7615 WHOLE SYSTEM



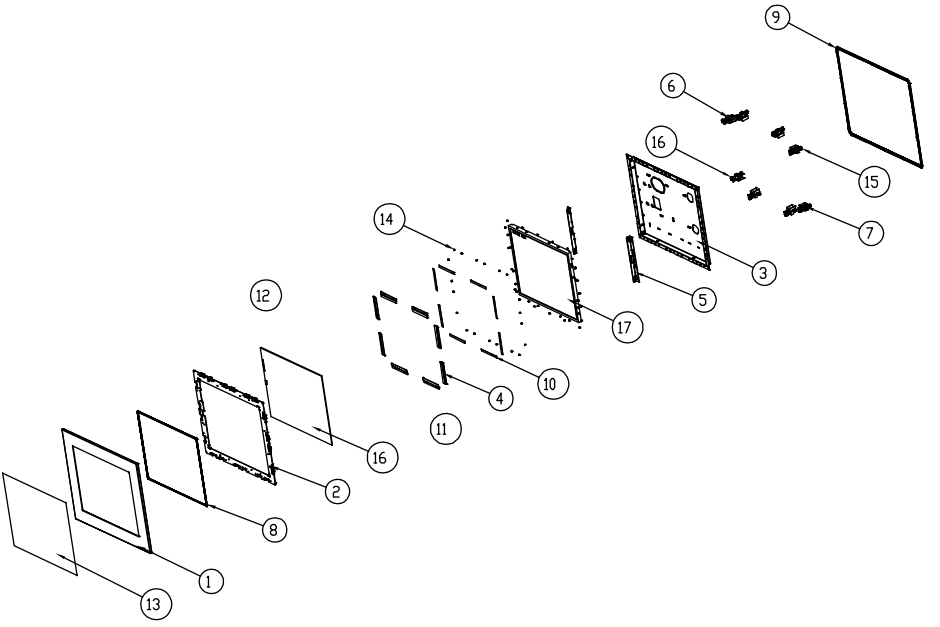
| Item | Part No. | Q'ty | Description |
|---|---|---|---|
| 1 | PROX-B531LF-P0603-G1E | 1 | Motherboard |
| 2 | | | ATX Power |
| 3 | 52-351-03150102 | 1 | 15" LCD (G150XG01-V1) |
| 4 | 52-101-15020003 | 1 | Inverter (GP1502-09A) |
| 5 | 52-351-00555514 | 1 | 15" ELO Touch |
| 6 | 52-370-01500004 | 1 | Touch control board |
| 7 | | 1 | 160G HDD |
| 8 | 27-020-16803111 | 1 | LVDS cable |
| 9 | 27-015-16803071 | 1 | Inverter cable |
| 10 | 27-016-16808111 | 1 | USB touch control board cable |
| 11 | 27-024-16806031 | 2 | com port cable |
| 12 | 27-008-16805081 | 1 | HDD SATA cable |
| 13 | 27-019-16809071 | 1 | power switch cable |
| 14 | 27-043-16807071 | 2 | inverter |
| 15 | 27-012-16804071 | 1 | ATX 12pin cable to 10pin cable |
| 16 | 21-004-05050051 | 1 | System Fan (50x50x15mm) L=150mm (ADDA AD5012HB-D76 Rev. C) |
| 17 | 20-004-07001168 | 1 | PPC-7615 PRONT COVER |
| 18 | 20-029-03061162 | 1 | PPC-7615 LCD HOLDER |
| 19 | 20-032-03061168 | 1 | PPC-7615 PC BASE (Black) |
| 20 | 20-004-03061168 | 1 | PPC-7615 REAR COVER (Black) |
| 21 | 20-006-03003168 | 1 | PPC-7615 IO BRACKET (Black) |
| 22 | 20-029-07001168 | 2 | PPC-7615 PANEL SIDE HOLDER |
| 23 | 20-006-07001168 | 2 | PPC-7615 PRESS TOUCH BRACKET |
| 24 | 20-047-03061168 | 1 | PPC-7615 CD-ROM DOOR (Black) |
| 25 | 20-029-03003168 | 1 | PPC-7615 HDD HOLDER |
| 26 | 20-033-03061168 | 1 | PPC-7368F CF BLOCK |
| 27 | 22-222-30004011 | 4 | FLAT HEAD SCREW |
| 28 | 22-215-30006111 | 71 | FLAT HEAD SCREW |
| 29 | 22-692-40048051 | 12 | CU_BOSS Pillar |
| 30 | 22-230-30005811 | 30 | SCREW |
| 31 | 22-272-20002011 | 4 | SCREW |
| 32 | 22-272-30128018 | 8 | Screw for HDD cushion |
| 33 | 30-013-01100031 | 4 | |
| 34 | 22-622-60005011 | 3 | PAN HEAD SCREW |
| 35 | 30-013-15100168 | 1 | PPC-7615 EVA LCD (321.1 x 245.1 x 2mm) |
| 36 | 30-013-24100168 | 2 | PPC-7615 PORON LCD SIDE 1 (312.4x5x0.5mm) |
| 37 | 30-013-24200168 | 2 | PPC-7615 PORON LCD SIDE 2 (153.5x27.2x11mm) |
| 38 | 30-056-39100168 | 1 | PPC-7615 MYLAR INVERTER 15 (153.5 x 27.2x11mm) |
| 39 | 20-006-03001168 | 1 | PPC-7615 FIX XY DIRECTION TOUCH OF RESIST FOR ELO RIGHT |
| 40 | 20-006-03002168 | 1 | PPC-7615 FIX XY DIRECTION TOUCH OF RESIST FOR ELO LEFT |
| 41 | 20-044-02011000 | 1 | Finger Guard (PD-FG-05-50) |
| 42 | 22-222-40020011 | 4 | PAN HEAD SCREW |
| 43 | 30-015-0420000 | 4 | CABLE TIE |
| 44 | 21-006-04545001 | 1 | PS-8590 Thermal Pads, 45x45x5mm |
| 45 | 22-272-40004911 | 2 | FILLISTR HEAD SCREW |

## EXPLODED DIAGRAM FOR PPC-7617 LCD PANEL



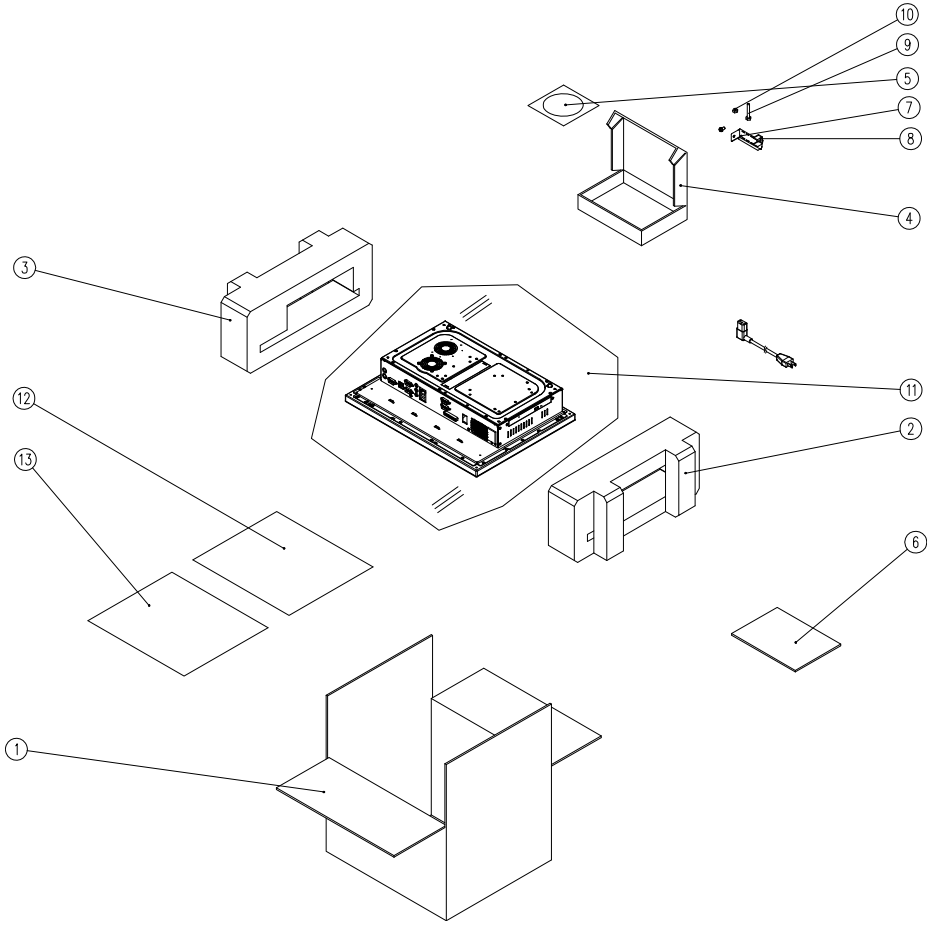
| Item | Part No. | Q'ty | Description |
|---|---|---|---|
| 1 | 20-004-07001169 | 1 | Panel SUS Cover |
| 2 | 20-004-03001169 | 1 | Panel SECC Cover |
| 3 | 20-029-03061169 | 1 | LCD Holder |
| 4 | 20-004-03002169 | 4 | Touchscreen Packing |
| 5 | 20-029-03001169 | 2 | LCD Link Holder |
| 6 | 20-011-03002169 | 8 | Hook Fix Sheet |
| 7 | 20-011-03062168 | 8 | 0_br_ear_slide |
| 8 | 30-013-01100169 | 1 | Touchscreen Oring |
| 9 | 30-013-01200169 | 1 | Wall Oring |
| 10 | 30-013-24300169 | 4 | Poron Touchscreen |
| 11 | 30-013-24100169 | 2 | Panel Sponge-1 |
| 12 | 30-013-24200169 | 2 | Panel Sponge-2 |
| 13 | 30-056-02100071 | 1 | 17" Mylar |
| 14 | 22-215-30006111 | 78 | M3*6 sara head screw |
| 15 | 22-252-60050011 | 8 | M6*50 Screw |
| 16 | 23-142-60501101 | 8 | M6 Nut |
| 17 | | 1 | Touch Screw |
| 18 | | 1 | LCD Panel |

## EXPLODED DIAGRAM FOR PPC-7619 LCD PANEL



| Item | Part No. | Q'ty | Description |
|---|---|---|---|
| 1 | 20-004-07002170 | 1 | Panel SUS Cover |
| 2 | 20-004-03001170 | 1 | Panel SECC Cover |
| 3 | 20-029-03061170 | 1 | LCD Holder |
| 4 | 20-004-03002170 | 8 | Touchscreen Packing |
| 5 | 20-029-03001170 | 2 | LCD Link Holder |
| 6 | 20-011-03002169 | 8 | Hook Fix Sheet |
| 7 | 20-011-03062168 | 8 | 0_br_ear_slide |
| 8 | 30-013-01100170 | 1 | Touchscreen Oring |
| 9 | 30-013-01200170 | 1 | Wall Oring |
| 10 | 30-013-24300170 | 4 | Poron Touchscreen |
| 11 | 30-013-24100170 | 2 | Panel Sponge-1 |
| 12 | 30-013-24200170 | 2 | Panel Sponge-2 |
| 13 | 30-056-25400000 | 1 | 19" Mylar |
| 14 | 22-215-30006111 | 82 | M3*6 sara head screw |
| 15 | 22-252-60050011 | 8 | M6*50 Screw |
| 16 | 23-142-60501101 | 8 | M6 Nut |
| 17 | | 1 | Touch Screw |
| 18 | | 1 | LCD Panel |

## EXPLODED DIAGRAM FOR PPC-7615/ PPC-7617/ PPC-7619 PACKING



| Item | Part No. | Q'ty | Description |
|---|---|---|---|
| 1 | | | Carton |
| 2 | | | EPE-R |
| 3 | | | EPE-L |
| 4 | 34-003-01301086 | 1 | |
| 5 | | | Drive CD |
| 6 | | | Quick manual |
| 7 | 20-011-03061168 | 4 | PPC-7615 HOOK BASE (Black) |
| 8 | 20-011-03062168 | 4 | PPC-7615 HOOK SLIDE (Black) |
| 9 | 22-252-60050011 | 4 | HEX HEAD SCREW |
| 10 | 23-142-60501101 | 4 | M6x1.0Px50mm |
| 11 | 32-100-20010000 | 1 | PE |
| 12 | 30-056-02100008 | 1 | Mylar |
| 13 | 34-004-01301008 | 1 | LCD Panel Cardboard |
| 14 | 34-005-00010007 | 2 | Drying Agent |
| 15 | 30-013-15200168 | 1 | PPC-7615 EVA FOR WALL (402.8x303x3mm) |
| 16 | 22-222-40020011 | 12 | |
| 17 | 22-215-30006111 | 4 | |
| 18 | 22-230-30005811 | 8 | |
| 19 | | 1 | Label |

# *TECHNICAL SUMMARY*

*APPENDIX*

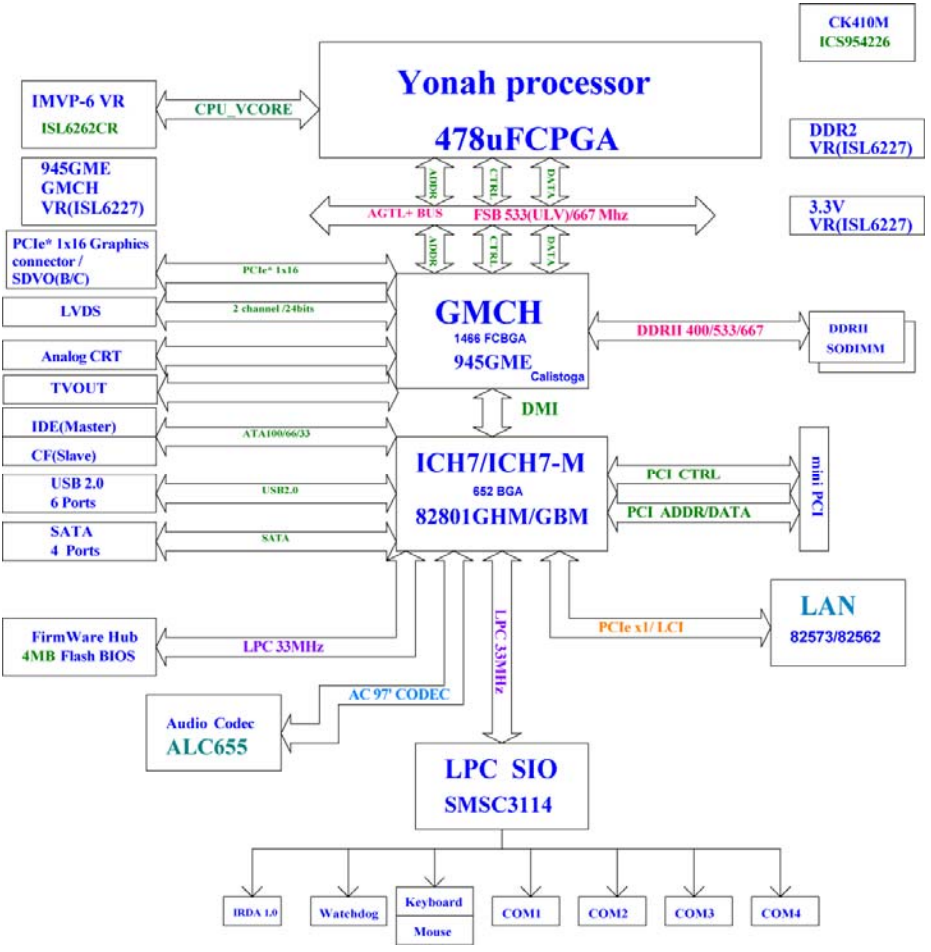
***B***

This section introduce you the maps concisely.

Section includes:

- Block Diagram
- Interrupt Map
- RTC & CMOS RAM Map
- Timer & DMA Channels Map
- I / O & Memory Map

## BLOCK DIAGRAM



## INTERRUPT MAP

| IRQ | ASSIGNMENT |
|---|---|
| 0 | System TIMER |
| 1 | Keyboard |
| 2 | Cascade |
| 3 | Serial port 2 |
| 4 | Serial port 1 |
| 5 | Available |
| 6 | Floppy |
| 7 | Parallel port 1 |
| 8 | RTC clock |
| 9 | Available |
| 10 | Available |
| 11 | Available |
| 12 | PS/2 Mouse |
| 13 | Math coprocessor |
| 14 | IDE1 |
| 15 | IDE2 |

## RTC & CMOS RAM MAP

| CODE | ASSIGNMENT |
|---|---|
| 00 | Seconds |
| 01 | Second alarm |
| 02 | Minutes |
| 03 | Minutes alarm |
| 04 | Hours |
| 05 | Hours alarm |
| 06 | Day of week |
| 07 | Day of month |
| 08 | Month |
| 09 | Year |
| 0A | Status register A |
| 0B | Status register B |
| 0C | Status register C |
| 0D | Status register D |
| 0E | Diagnostic status byte |
| 0F | Shutdown byte |
| 10 | Floppy Disk drive type byte |
| 11 | Reserve |
| 12 | Hard Disk type byte |
| 13 | Reserve |
| 14 | Equipment byte |
| 15 | Base memory low byte |
| 16 | Base memory high byte |
| 17 | Extension memory low byte |
| 18 | Extension memory high byte |
| 30 | Reserved for extension memory low byte |
| 31 | Reserved for extension memory high byte |
| 32 | Date Century byte |
| 33 | Information Flag |
| 34-3F | Reserve |
| 40-7f | Reserved for Chipset Setting Data |

## 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 |
| 3 | Available |
| 4 | Cascade |
| 5 | Available |
| 6 | Available |
| 7 | Available |

# I/O & MEMORY MAP

**Memory Map :**

| MEMORY MAP | ASSIGNMENT |
|---|---|
| 0000000-009FFFF | System memory used by DOS and application |
| 00A0000-00BFFFF | Display buffer memory for VGA/ EGA / CGA / MONOCHROME adapter |
| 00C0000-00DFFFF | Reserved for I/O device BIOS ROM or RAM buffer. |
| 00E0000-00EFFFF | Reserved for PCI device ROM |
| 00F0000-00FFFFF | System BIOS ROM |
| 0100000-FFFFFFF | System extension memory |

**I/O Map :**

| I/O MAP | ASSIGNMENT |
|---|---|
| 000-01F | DMA controller (Master) |
| 020-021 | Interrupt controller (Master) |
| 022-023 | Chipset controller registers I/O ports. |
| 040-05F | Timer control regsiters. |
| 060-06F | Keyboard interface controller (8042) |
| 070-07F | RTC ports & CMOS I/O ports |
| 080-09F | DMA register |
| 0A0-0BF | Interrupt controller (Slave) |
| 0C0-0DF | DMA controller (Slave) |
| 0F0-0FF | Math coprocessor |
| 1F0-1F8 | Hard Disk controller |
| 278-27F | Parallel port-2 |
| 2B0-2DF | Graphics adapter controller |
| 2F8-2FF | Serial port-2 |
| 360-36F | Net work ports |
| 378-37F | Parallel port-1 |
| 3B0-3BF | Monochrome & Printer adapter |
| 3C0-3CF | EGA adapter |
| 3D0-3DF | CGA adapter |
| 3F0-3F7 | Floppy disk controller |
| 3F8-3FF | Serial port-1 |