APC-8152

Socket 478 based

Intel ® Pentium® 4 Processors

Industrial Panel PC

With 15" TFT LCD &

Two free expansion slots

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Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 APC-8152 AAEON Panel PC
- 10 Panel mount clip & screw
- 1 Screw Bag
- 1 Waterproof Sponge
- 1 Jumper Cap
- 2 Easy stand
- 1 Power Cord (optional)
- 1 CD-ROM for manual (in PDF format) and drivers

If any of these items should be missing or damaged, please contact your distributor or sales representative immediately.

Safety & Warranty

1. Read these safety instructions carefully.

2. Keep this user's manual for later reference.

3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.

4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.

5. Keep this equipment away from humidity.

6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.

7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.

9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.

12. Never pour any liquid into an opening. This could cause fire or electrical shock.

13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.

14. If any of the following situations arises, get the equipment checked by service personnel:

    a. The power cord or plug is damaged.

    b. Liquid has penetrated into the equipment.

    c. The equipment has been exposed to moisture.

    d. The equipment does not work well, or you cannot get it to work

       according to the users manual.

    e. The equipment has been dropped and damaged.

    f. The equipment has obvious signs of breakage.

15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.

16. External equipment intended for connection to signal input/output or other connectors, shall comply with relevant UL / IEC standard (e.g. UL 60950 for IT equipment and UL 2601-1 / IEC 60601 series for medical electrical equipment). In addition, all such combinations – systems – shall comply with the standard IEC 60601-1-1, Safety requirements for medical electrical systems. Equipment not complying with UL 2601-1 shall be kept outside the patient environment, as defined in the standard.

FCC Safety

Warning!

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Contents

Chapter 3 BIOS Installation...............48

Chapter 4 Driver Installation 67

Chapter

1

General Information

Introduction

APC-8152 is first Pentium®4 industrial board in AAEON Panel PC product line. It features a PGA478 socket that can accommodate Pentium®4 and Celeron®Processor, supporting FSB up to 400/533MHz.

Best performance for multimedia solution

AAEON's APC-8152 also supports DDR DRAM up to 1GB, 4X AGP, and 5.1 channels audio output. It can provide the strong multimedia functions. Therefore APC-8152 can be broadly implemented in several markets, such as Point of sale, point of information (Kiosk), and gaming markets.

Multi-Function Pentium4 Platform

If you are looking for powerful multi-media applications,

APC-8152 is the one. APC-8152 integrates 15" color TFT LCD, Digital I/O, Audio and Ethernet function; meanwhile

it also supports 5 USB2.0, mini PCI, and two PCI slots. With flexible expansion, you get easy access to solutions ranging from Modem, Storage, Sound Card, SCSI card, Audio/Video capture card, Wireless LAN module, to Bluetooth module. Especially for customers whom application is various or changing, APC-8152 reserves more than enough flexibility for future expansion.

APC-8152 provides more CPU options for different applications. You can choose Pentium®4 processor up to 3.06G for high

performance application. Most of all Pentium®4 Level processors are suitable for APC-8152.

Features

- 15" TFT SXGA (1024 x 768) LCD

- All-in-one SBC support Socket 478 based Intel® Pentium®4 Processor

- Support Intel®Hyper-Threading Technology

- Anti-vibration disk drive bay for HDD

- Water-proof and anti-scratch aluminum front panel with USB port IP-65 certification

- Two free PCI expansion slots

- Digital I/O (8 in, 8 out as Default, up to 16 in or 16 out)

- Resistive Touch screen (Optional)

Specifications

System

- Construction   Heavy-duty steel chassis & IP-65

  certified aluminum front panel (or
  optional stainless steel

  front panel)

- CPU   Socket 478 based Pentium®

  4(.13μ) / Celeron® Processors up
  to 3.06GHz with FSB
  400/533MHz,

  Hyper-Threading Technology
  supported

- Memory   184 pin DIMM x 1, support

  DDR 200/266/333MHz up to
  1GB

- Display   15" XGA color TFT LCD

- LCD / CRT controller   Intel® i845GV, AGP 4X

- Network (LAN)   Intel® 82562 10/100 Base-T

  Ethernet controller

- I/O Chipset   3 serial ports: 2 x RS-232, 1 x

RS-232/422/485 (COM 4 is

reserved for touch screen)

1 parallel port (supports ECP/EPP)

1 PS/2 mouse and keyboard port

1 VGA port

Mic in, Line in, Line out, S/P DIF

5.1 channels audio port

GPIO: 16 in or 16 out

- Storage Disk Drive Anti-vibration 2.5"HDD, Slim

   FDD and Slim CD-ROM

- USB ports   4 USB 2.0 ports on rear chassis

   1 USB 2.0 port on front panel

   (Lockable by BIOS)

   Because of USB chipset limitation, front USB port and

   Card reader USB interface are linked together, when

   user "disable" front USB port   USB Port 3

   controller   , the card reader must be forced to disable at

   same time.

- Front Panel   PMS 2965C (Dark Blue)

- Mounting   Panel Mount, VESA

75/100mm holes

- Expansion slots   2 PCI slots

  1 Mini PCI socket

  6in1 card reader.

  Because of drivers bug, after successfully installing card reader drivers, two vanity disk drives appear: XD and Flash. Please ignore the two useless disk drives.

  Support CompactFlash® (Type I/II), Secure Digital, Multi Media Card, Memory Stick (PRO) and Smart Media

- Power Supply   Universal 250W switching power

  supply

- OS support   Windows 98SE, Windows 2000,

  Windows XP

- Dimension (W x H x D) 444 x 336 x 144mm

  (17.5" x 13.2" x 5.7")

- Carton Dimension (W x H x D) 555 x 460 x 355mm

  (21.9" x 18.1" x 14")

- Gross Weight   15KG (33.1 lbs)

Power Supply

- AC input 250W (standard offer):

    ✓ Output rating: 250W

    ✓ Input voltage:

    100VAC~240VAC@60~50Hz

    ✓ Output voltage:

    +3.3V@16A, +5V@25A, +12V@13A, +5VSB@2A, -5V@0.3A, -12V@0.8A

- 24V DC input:

    ✓ Output rating: 300W (Maximum)

    ✓ Input voltage: 19VDC~36VDC@30A

            Maximum

    ✓ Output voltage:

    +5V@25A, +12V@22A,

    +3.3V@20A, -5V@0.8A, -12V@1A, 5VSB@1.5A

LCD Specifications

Display type	15" color TFT LCD
Max. Resolution	1024 x 768
Max. Colors	256K
Dot size (mm)	0.297 x 0.297
Luminance (cd/m²)	250 (TYP)
Viewing angle	150°(H)
	145°(V)
Back Light MTBF (Hrs)	30,000

Touch screen (Optional)

- Type   8-wire, analog resistive

- Resolution   2048 x 2048

- Light transmission   >75%

- Lifetime   1 million activations

- OS support   Windows 98SE, Windows 2000,

  Windows XP

Environment Specifications

- Operating temperature   0 ~50 (32~122)

- Storage temperature   -20 ~60 (-4~140)

- Operating humidity   10 to 90% @35 ,

  non-condensing

- Vibration   1G / 5~500Hz (Random / operation)

- Shock   15G peak acceleration (11 msec. duration) / operation

- EMC   CE/FCC Class B

Dimension

402.2

APC-8152

Unit:mm

444.0

336.0

20.0

296.0

20.0

43.0

144.0
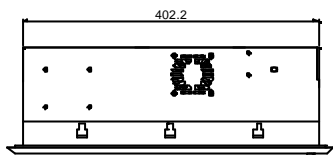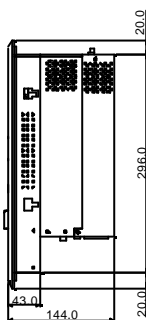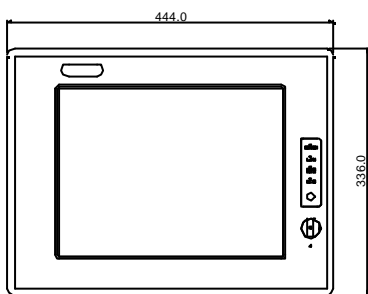
Cutout Size:405*299 mm

Chapter

2

Hardware Installation

Notice:
The Quick Installation Guide is derived from Chapter 2 of user manual. For other chapters and further installation instructions, please refer to the user manual CD-ROM that came with the product.

OZONE SAFE

RECYCLABLE

Safety Precautions

Warning!

Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!

Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

Location of Connectors and Jumpers

Component Side
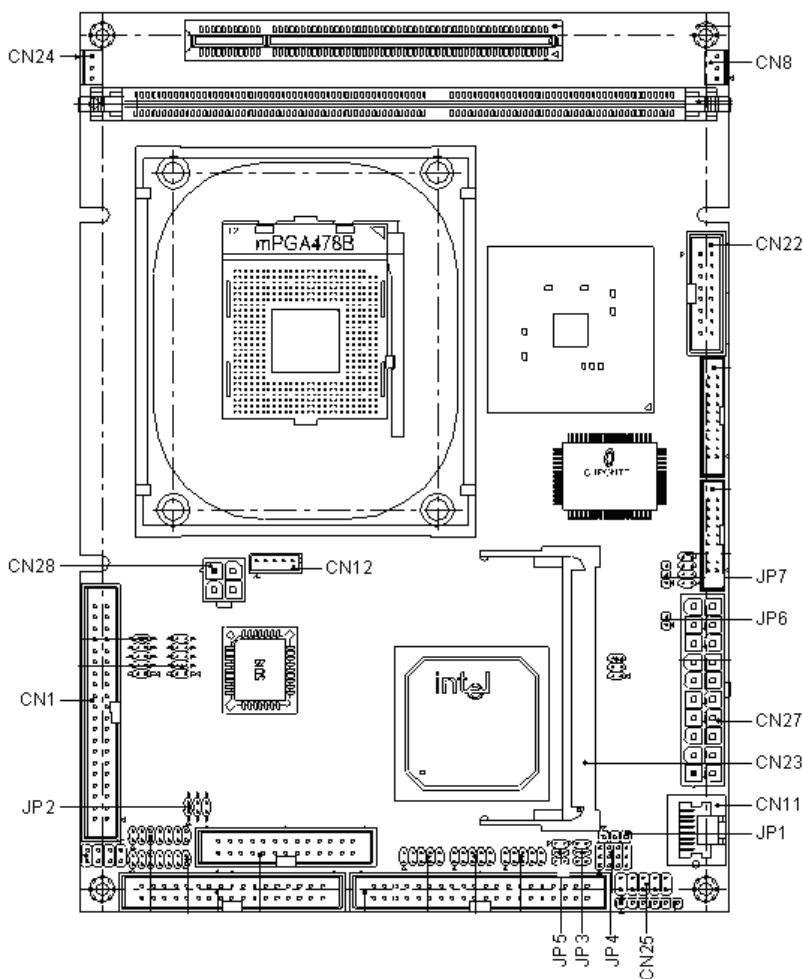
List of Jumpers

There are a number of jumpers in the board that allow you to configure your system to suit your application.

The table below shows the function of each jumper in the board:

Jumpers

Label	Function
JP1	Clear CMOS
JP2	Audio Out Select
JP3	COM2 Ring/+5V/+12V Selection
JP4	COM2 RS-232/422/485 Selection
JP5	COM2 RS-232/422/485 Selection
JP6	ATX Power simulate AT Power
JP7	LCD Voltage Selection

List of Connectors

There are a number of connectors in the board that allow you to configure your system to suit your application. The table below shows the function of each connector in the board:

Connectors

Label	Function
CN1	EIDE HDD Connector
CN8,CN24	Fan Connector
CN11	10/100Base-Tx Ethernet Connector
CN12	Option PME Connector
CN22	VGA Display Connector
CN23	MINI PCI SLOT
CN25	Front Panel
CN27	ATX Power Connector
CN28	ATX Power 12V Connector

Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To "close" a jumper you connect the pins with the clip.

To "open" a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.

Open   **Closed**   **Closed 2-3**
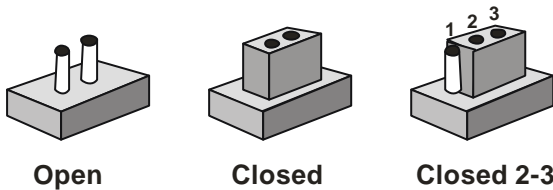
A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

Clear CMOS (JP1)

Warning:
To avoid damaging the computer, always turn off the power supply before setting " Clear CMOS." Before turning on the power supply, set the jumper back to "Normal."

JP1	Function
1-2	Active (Default)
2-3	Clear

Audio Out Select (JP2)

JP2	Function
1-3, 2-4	W/O Amplifier (Default)
3-5, 4-6	W/ Amplifier

COM2 Ring/+5V/+12V Selection (JP3)

JP3	Function
1-2	+12V
3-4	+5V
5-6	Ring (Default)

COM2 RS-232/422/485 Select (JP4&JP5)

JP4	JP5	Function
1-2, 4-5, 7-8, 10-11	1-2	RS-232 (Default)
2-3, 5-6, 8-9, 11-12	3-4	RS-422
2-3, 5-6, 8-9, 11-12	5-6	RS-485

ATX Power simulate AT Power (JP6)

JP6	Function
1-2 ON	ATX Power Simulate AT Power
1-2 OFF	ATX Standard (Default)

IDE Connector (CN1)

Pin	Signal	Pin	Signal
1	IDE RESET	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	N.C
21	REQ	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	IO READY	28	GND
29	DACK	30	GND
31	IRQ14	32	N.C
33	ADDR1	34	UDMA DETECT
35	ADDR0	36	ADDR2
37	CS#1	38	CS#3
39	LED	40	GND

Fan Connector (CN8&CN24)

Pin	Signal
1	GND
2	+5V
3	FAN SPEED SENSE

10/100Base-Tx Ethernet Connector (CN11)

Pin	Signal	Pin	Signal
1	TX+	9	N.C
2	TX-	10	N.C
3	RX+	11	GND
4	N.C	12	GND
5	N.C	13	N.C
6	RX-	14	N.C
7	N.C	15	N.C
8	N.C	16	N.C

Option PME Connector (CN12)

Pin	Signal	Pin	Signal
1	+5VSB	2	GND
3	#PME	4	SMB_DATA
5	SMB_CLK		

Floppy Connector (CN13)

Pin	Signal	Pin	Signal
1	GND	2	REDWC
3	GND	4	N.C
5	GND	6	DS1
7	GND	8	INDEX
9	GND	10	MOTOR A
11	GND	12	DRIVE SELECT B
13	GND	14	DRIVE SELECT A
15	GND	16	MOTOR B
17	GND	18	DIR
19	GND	20	STEP
21	GND	22	WRITE DATA
23	GND	24	WRITE GATE
25	GND	26	TRACK
27	GND	28	WRITE PROTECT
29	GND	30	READ DATA
31	GND	32	SIDE1
33	GND	34	DISK CHANGE

LPT Port Connector (CN14)

Pin	Signal	Pin	Signal
1	STROBE	2	AFD
3	PTD0	4	ERROR

5	PTD1	6	INIT
7	PTD2	8	SLIN
9	PTD3	10	GND
11	PTD4	12	GND
13	PTD5	14	GND
15	PTD6	16	GND
17	PTD7	18	GND
19	ACK	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SELECT	26	N.C

COM~3 RS-232/422/485 Serial Port Connector (CN16)

Only COM1 support "Wake on Ring" function.

Pin	Signal	Pin	Signal
1	DCD1	2	DSR1
3	RXD1	4	RTS1
5	TXD1	6	CTS1
7	DTR1	8	RI1
9	GND	10	N.C
11	DCD2(422TXD-/485DATA-)	12	DSR2 (422RXD+)
13	RXD2(422TXD+/485DATA+)	14	RTS2 (422RXD-)
15	TXD2	16	CTS2
17	DTR2	18	RI2
19	GND	20	N.C
21	DCD3	22	DSR3

23	RXD3	24	RTS3
25	TXD3	26	CTS3
27	DTR3	28	RI3
29	GND	30	N.C
31	DCD4	32	DSR4
33	RXD4	34	RTS4
35	TXD4	36	CTS4
37	DTR4	38	RI4
39	GND	40	N.C

PS2 Keyboard/Mouse Connector (CN17)

Pin	Signal
1	KB_DATA
2	KB_CLK
3	GND
4	+5V
5	MS_DATA
6	MS_CLK

Digital I/O Port

Pin	Signal	I/O Address Setting
1	Digital-IN / OUT	841H
2	Digital-IN / OUT	841H
3	Digital-IN / OUT	841H
4	Digital-IN / OUT	841H
5	GND	
6	GND	
7	Digital-IN / OUT	841H
8	Digital-IN / OUT	841H
9	Digital-IN / OUT	841H
10	Digital-IN / OUT	841H
11	GND	
12	GND	
13	Digital-IN / OUT	801H
14	Digital-IN / OUT	801H
15	Digital-IN / OUT	801H
16	Digital-IN / OUT	801H
17	GND	
18	GND	
19	Digital-IN / OUT	801H
20	Digital-IN / OUT	801H
21	Digital-IN / OUT	801H
22	Digital-IN / OUT	801H
23	+5V	
24	+5V	
25	+5V	

The pin definitions and registers mapping are illustrated below:

Address: 841H

4 in / 4 out

Pin1	Pin2	Pin3	Pin4	Pin7	Pin8	Pin9	Pin10
GPI 27	GPI 26	GPI 25	GPI 24	GPO 23	GPO 22	GPO 21	GPO 20
MSB							LSB

8 in

Pin1	Pin2	Pin3	Pin4	Pin7	Pin8	Pin9	Pin10
GPI 27	GPI 26	GPI 25	GPI 24	GPI 23	GPI 22	GPI 21	GPI 20
MSB							LSB

8 out

Pin1	Pin2	Pin3	Pin4	Pin7	Pin8	Pin9	Pin10
GPO 27	GPO 26	GPO 25	GPO 24	GPO 23	GPO 22	GPO 21	GPO 20
MSB							LSB

Address: 801H

4 in/ 4 out

Pin13	Pin14	Pin15	Pin16	Pin19	Pin20	Pin21	Pin22
GPI 27	GPI 26	GPI 25	GPI 24	GPO 23	GPO 22	GPO 21	GPO 20
MSB							LSB

8 in

Pin13	Pin14	Pin15	Pin16	Pin19	Pin20	Pin21	Pin22
GPI 27	GPI 26	GPI 25	GPI 24	GPI 23	GPI 22	GPI 21	GPI 20
MSB							LSB

8 out

Pin13	Pin14	Pin15	Pin16	Pin19	Pin20	Pin21	Pin22
GPI 27	GPI 26	GPI 25	GPI 24	GPI 23	GPI 22	GPI 21	GPI 20
MSB							LSB

VGA Display Connector (CN22)

Pin	Signal	Pin	Signal
1	Red	9	GND
2	VCC	10	HSYNC
3	Green	11	GND
4	GND	12	VSYNC
5	Blue	13	GND
6	N.C	14	SCL
7	N.C	15	GND
8	SDA	16	N.C

ATX Power Connector (CN27)

Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON
5	GND	15	GND
6	+5V	16	GND

AAEON Panel PC		APC-8152	
7	GND	17	GND
8	POWER OK	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

ATX Power 12V Connector (CN28)

Pin	Signal	Pin	Signal
1	GND	2	GND
3	+12V	4	+12V

FDD & CD-ROM Installation

We will guide you how to lock FDD and CD-ROM together. Please see the detail as follows.

Step 1: Plug in FDD cable
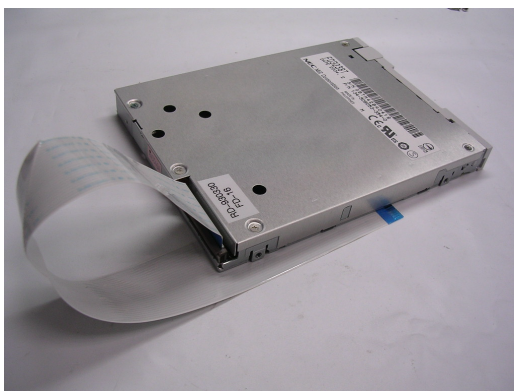
Step 2: Fasten the FDD and CD-ROM together with two brackets on the both sides symmetrically.

Step 3: Fasten the transferring bar with a pair of screws on the back of the

CD-ROM.
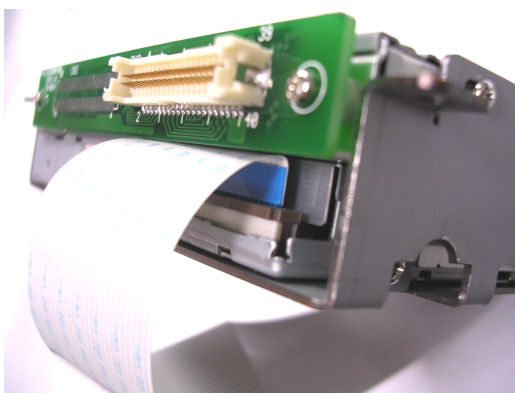
Step 4: Plug in CD-ROM Cable
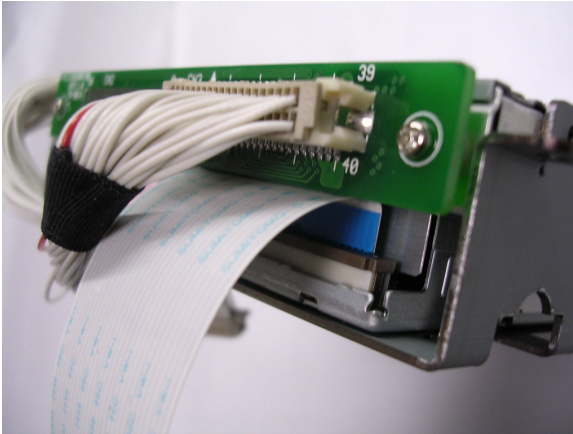
HDD Installation

In the following, we will guide you how to install HDD. Make sure that all parts are provided before you start the installation.

Step 1: Lock with the screws as the illustration shown.

Step 2: Cover the screws with four pieces of anti-vibration rubbers
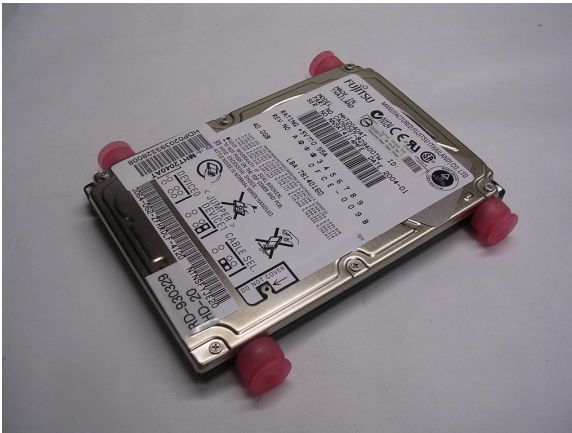
Step 3: There're two pieces of iron surfaces as the illustration shown.
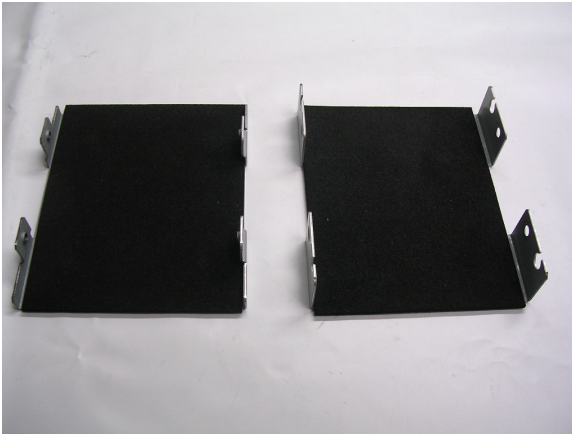
Step 4: Locate the HDD on one piece of the iron surface and fasten it

with the screws.

Step 5: Cover it with another piece of iron surface and lock it with

the screws.
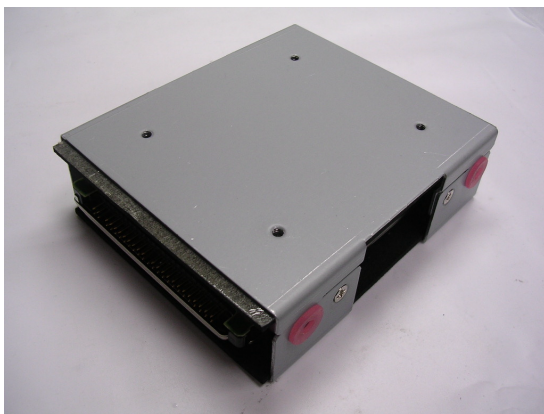
Step 6: Fix the HDD module into the APC-8152 chassis and plug

the cable in.

Fix the HDD module with the screws

Plug the cable in
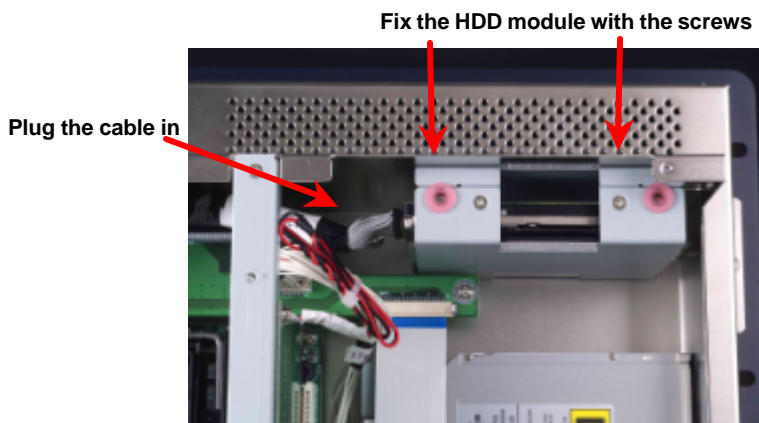
Easy Stand Installation

There're two L-shaped easy stands come with the product. Refer to the following illustration to install it.

1. Fix the L-shaped easy stands with the screws on both sides of the monitor. See the illustration below:

*4-M4 Screw
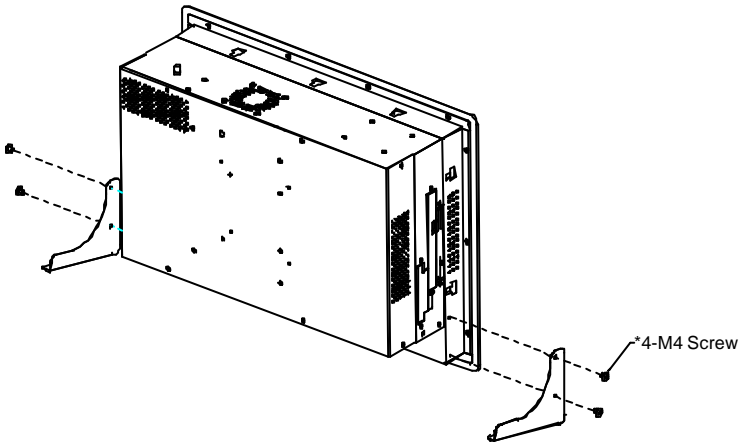
Panel Mount Kit Installation

Some screw sets will come with the product for user to mount the monitor on the wall. See the steps below along with the illustration.

Step 1: Bore the screw into the screw nut.

Step 2: Locate the screw set into the hole around the monitor as the right illustration and pull it back to lock the screw set on the hole.

Step 3: Turn the screw around to make it tight until it is closed to the wall.

Step 4: Lock the monitor to the wall with the screw set which mean you've done a good job.

Panel Mounting
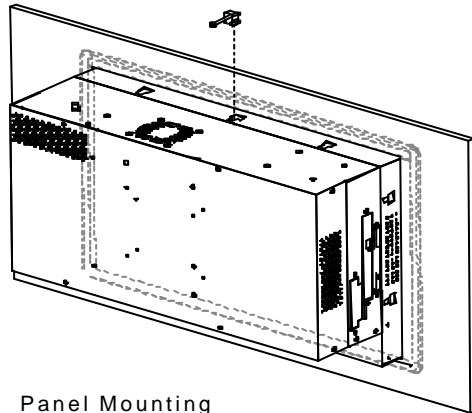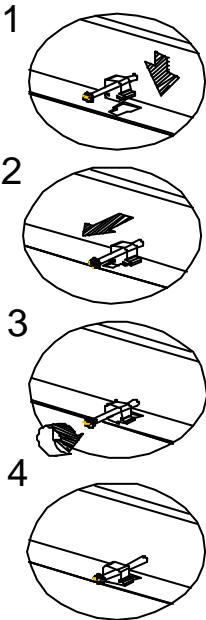
Waterproof sponge Installation

The following illustration shows you how to lodge the waterproof sponge in the back of the monitor set.

1. Lodge the Sponge in the back of the monitor set.

2. Locate the monitor set on the wall.

Chapter

3
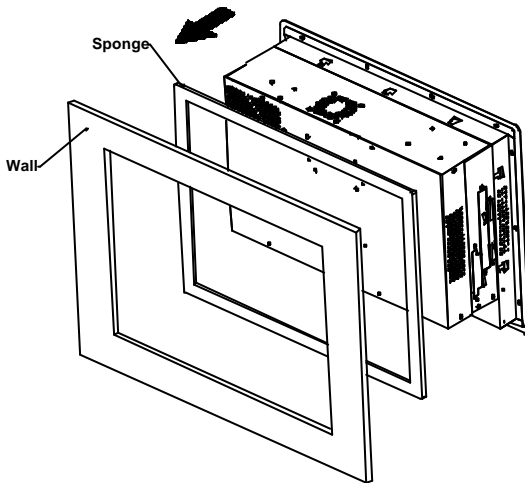
BIOS Installation

System test and initialization

These routines test and initialize board hardware. If the routines encounter an error during the tests, you will either hear a few short beeps or see an error message on the screen. There are two kinds of errors: fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

Press <F1> to RESUME

Write down the message and press the F1 key to continue the boot up sequence.

System configuration verification

These routines check the current system configuration against the values stored in the CMOS memory. If they do not match, the program outputs an error message. You will then need to run the BIOS setup program to set the configuration information in memory.

There are three situations in which you will need to change the CMOS settings:

   1.   You are starting your system for the first time

   2.   You have changed the hardware attached to your system

   3.   The CMOS memory has lost power and the configuration

information has been erased.

The APC-8152 CMOS memory has an integral lithium battery backup for data retention. However, you will need to replace the complete unit when it finally runs down.

Award BIOS Setup

Awards BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

Entering setup

Power on the computer and press <Del> immediately. This will allow you to enter Setup.

```
              Phoenix - AwardBIOS CMOS Setup Utility

   ▶ Standard CMOS Features        ▶ Frequency/Voltage Control

   ▶ Advanced BIOS Features          Load Fail-Safe Defaults

   ▶ Advanced Chipset Features       Load Optimized Defaults

   ▶ Integrated Peripherals          Set Supervisor Password

   ▶ Power Management Setup          Set User Password

   ▶ PnP/PCI Configurations          Save & Exit Setup

   ▶ PC Health Status               Exit Without Saving


   Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item
   F10 : Save & Exit Setup

                   Time, Date, Hard Disk Type...
```

Standard CMOS Features

Use this menu for basic system configuration. (Date, time, IDE, etc.)

Advanced BIOS Features

Use this menu to set the advanced features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals. (Primary slave, secondary slave, keyboard, mouse etc.)

Power Management Setup

Use this menu to specify your settings for power management. (HDD power down, power on by ring, KB wake up, etc.)

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

This menu allows you to set the shutdown temperature for your system.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/ voltage control.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While AWARD has designated the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Set Supervisor/User Password

Use this menu to set Supervisor/User Passwords.

Save and Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Features

When you choose the Standard CMOS Features option from the
INITIAL SETUP SCREEN menu, the screen shown below is
displayed. This standard Setup Menu allows users to configure system
components such as date, time, hard disk drive, floppy drive and
display. Once a field is highlighted, on-line help information is
displayed in the right box of the Menu screen.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                     Standard CMOS Features
     Date (mm:dd:yy)          Tue, May 25 2004        Item Help
     Time (hh:mm:ss)          15 : 16 :  1
                                                  Menu Level    ▶
   ▶ IDE Primary Master
   ▶ IDE Primary Slave                            Change the day, month,
   ▶ IDE Secondary Master                         year and century
   ▶ IDE Secondary Slave

     Drive A                  [1.44M, 3.5 in.]
     Drive B                  [None]

     Video                    [EGA/VGA]
     Halt On                  [All , But Keyboard]

     Base Memory                   640K
     Extended Memory               64512K
     Total Memory                  65536K


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

Advanced BIOS Features

By choosing the Advanced BIOS Features option from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the APC-8152
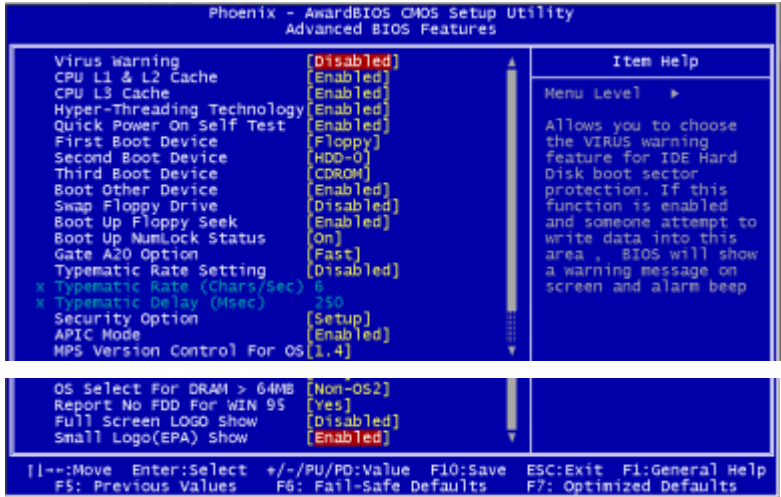
Advanced Chipset Features

By choosing the Advanced Chipset Features option from the
INITIAL SETUP SCREEN menu, the screen below is displayed.
This sample screen contains the manufacturer' s default values for the
APC-8152.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                      Advanced Chipset Features
   DRAM Timing Selectable    [By SPD]          │      Item Help
   CAS Latency Time          [1.5]             │
   Active to Precharge Delay [7]               │ Menu Level    ▶
   DRAM RAS# to CAS# Delay   [3]               │
   DRAM RAS# Precharge       [3]               │
   Turbo Mode                [Disabled]        │
   Memory Frequency For      [Auto]            │
   System BIOS Cacheable     [Enabled]         │
   Video  BIOS Cacheable     [Disabled]        │
   Memory Hole At 15M-16M    [Disabled]        │
   Delayed Transaction       [Enabled]         │
   Delay Prior to Thermal    [16 Min]          │
   AGP Aperture Size (MB)    [64]              │
                                               │
   ** On-Chip VGA Setting **                   │
   On-Chip VGA               [Enabled]         │
   On-Chip Frame Buffer Size [8MB]             │
   Boot Display              [CRT+LCD]         │
   Panel Type(LVDS)          [1024X768  1CH 18bit]│
─────────────────────────────────────────────────────────────────
↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
   F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```

Attention:

The LCD signal may be turned off automatically after the VGA
driver is installed, please press "Ctrl + Alt + F3" to enable LCD
signal again.

Integrated Peripherals

By choosing the Integrated Peripherals from the INITIAL SETUP SCREEN menu, the screen below is displayed. This sample screen contains the manufacturer' s default values for the APC-8152.
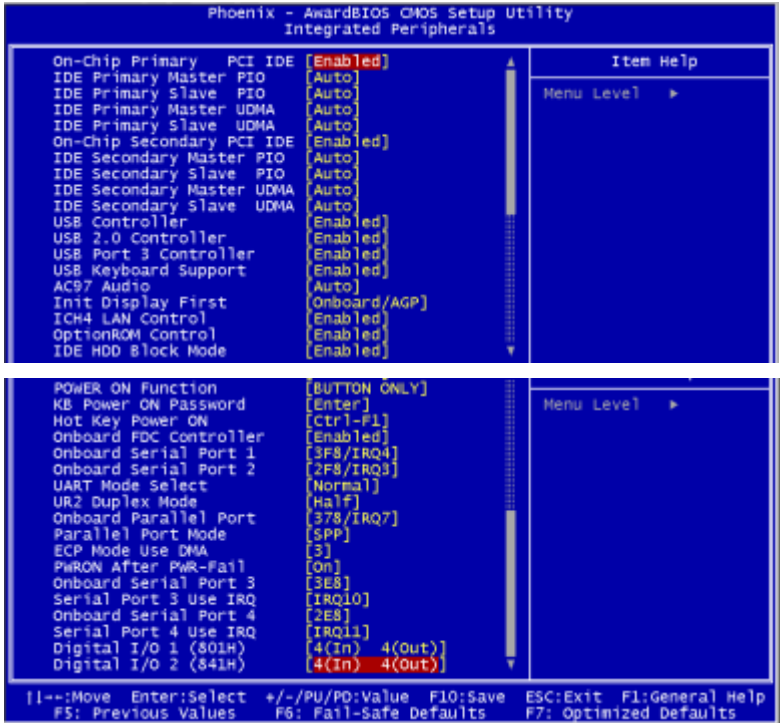
Power management Setup

By choosing the Power Management Setup from the INITIAL
SETUP SCREEN menu, the screen below is displayed. This sample
screen contains the manufacturer's default values for the APC-8152.

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                         Power Management Setup

      ACPI Function              [Enabled]                  Item Help
      ACPI Suspend Type          [S1(POS)]
    x Run VGABIOS if S3 Resume    Auto                 Menu Level   ►
      Power Management           [User Define]
      Video Off Method           [DPMS]
      Video Off In Suspend       [Yes]
      Suspend Type               [Stop Grant]
      MODEM Use IRQ              [3]
      Suspend Mode               [Disabled]
      HDD Power Down             [Disabled]
      Soft-Off by PWR-BTTN       [Instant-Off]
      Wake-Up by PCI card        [Enabled]
      Power On by Ring           [Enabled]
    x USB KB Wake-Up From S3      Disabled
      Resume by Alarm            [Disabled]
    x  Date(of Month) Alarm        0
    x  Time(hh:mm:ss) Alarm        0 : 0 : 0

      ** Reload Global Timer Events **

      Primary IDE 0              [Disabled]
      Primary IDE 1              [Disabled]
      Secondary IDE 0            [Disabled]
      Secondary IDE 1            [Disabled]
      FDD,COM,LPT Port           [Disabled]
      PCI PIRQ[A-D]#             [Disabled]

    ↑↓→←: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

By choosing the PnP/PCI configurations from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the APC-8152.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                       PnP/PCI Configurations

     Reset Configuration Data   [Disabled]              Item Help

     Resources Controlled By    [Auto(ESCD)]     Menu Level   ▶
   x IRQ Resources                Press Enter
                                                 Default is Disabled.
     PCI/VGA Palette Snoop       [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
                                                 reconfiguration has
                                                 caused such a serious
                                                 conflict that the OS
                                                 cannot boot


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

PC Health Status

By choosing the PC Health Status from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the APC-8152.

```
                Phoenix - AwardBIOS CMOS Setup Utility
                          PC Health Status
┌──────────────────────────────────────────┬──────────────────────────┐
│  (+)Vcore                                  │       Item Help          │
│  (+) 1.5V                                  │                          │
│  (+) 3.3V                                  │   Menu Level    ▶        │
│  (+)   5V                                  │                          │
│  (+)  12V                                  │                          │
│  (-)  12V                                  │                          │
│  (-)   5V                                  │                          │
│  (+) 5VSB                                  │                          │
│  Voltage Battery                           │                          │
│  System Temp (RT2)                         │                          │
│  CPU    Temp (RT3)                         │                          │
│  Fan 1 Speed(CN24)                         │                          │
│  Fan 2 Speed (CN8)                         │                          │
│                                            │                          │
│                                            │                          │
│                                            │                          │
├──────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults   │
└──────────────────────────────────────────────────────────────────────┘
```
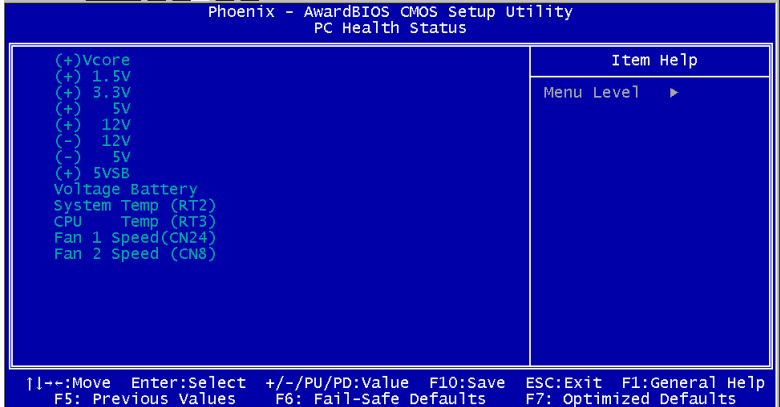
Frequency/Voltage control

By choosing the Frequency/Voltage Control from the Initial Setup Screen menu, the screen below is displayed. This sample screen contains the manufacturer's default values for the APC-8152.
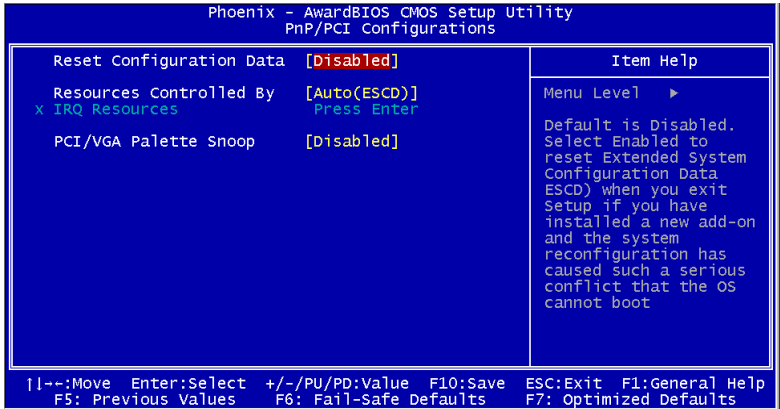
```
                Phoenix - AwardBIOS CMOS Setup Utility
                        Frequency/Voltage Control
 ┌──────────────────────────────────────────┬─────────────────────────┐
 │ Auto Detect PCI Clk        [Enabled]      │        Item Help        │
 │ Spread Spectrum            [Disabled]     │                         │
 │                                           │  Menu Level    ▶        │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 └──────────────────────────────────────────┴─────────────────────────┘
 ↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```
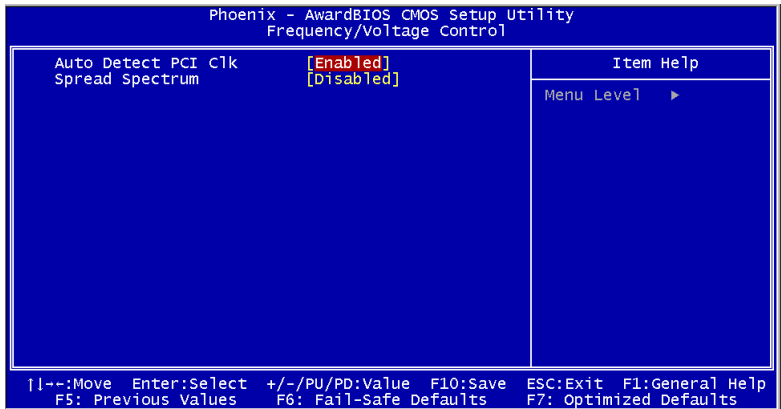
Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Default (Y/N)?

Pressing "Y" loads the BIOS default values for the most stable, minimal performance system operations.

```
            Phoenix - AwardBIOS CMOS Setup Utility

    ▶ Standard CMOS Features        ▶ Frequency/Voltage Control
    ▶ Advanced BIOS Features          Load Fail-Safe Defaults
    ▶ Advanced Chipset Features       Load Optimized Defaults
    ▶ Integrated Peripherals          Set Supervisor Password
    ▶ Power Management                                  word
    ▶ PnP/PCI Configura  Load Fail-Safe Defaults (Y/N)? N  etup
    ▶ PC Health Status                                 Saving

    Esc : Quit     F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item
    F10 : Save & Exit Setup

                    Load Fail-Safe Defaults
```
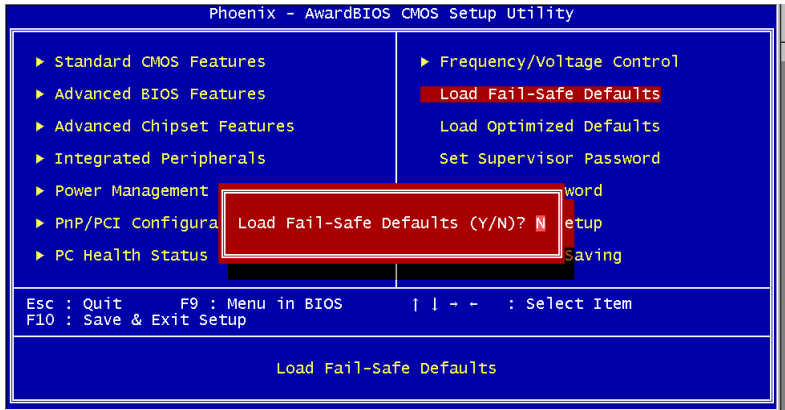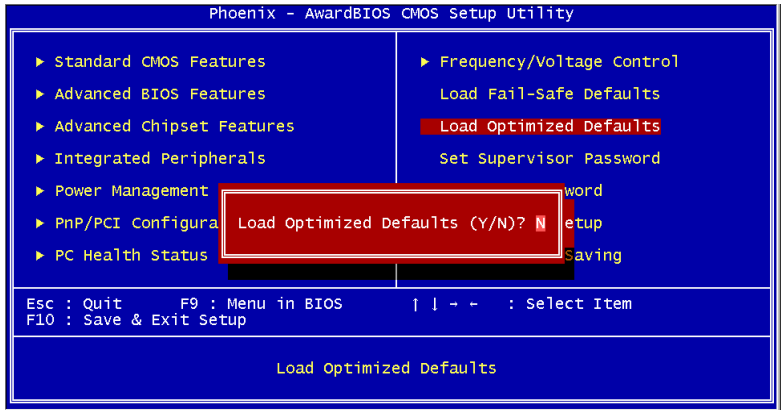
Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)?

Pressing "Y" loads the default values that are manufacturer's settings for optimal performance system operations.

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

Set Supervisor/User Password

You can set either SUPERVISOR or USER PASSWORD, or both of them. The difference between the two is that the supervisor password allows unrestricted access to enter and change the options of the setup menus, while the user password only allows entry to the program, but not modify options.
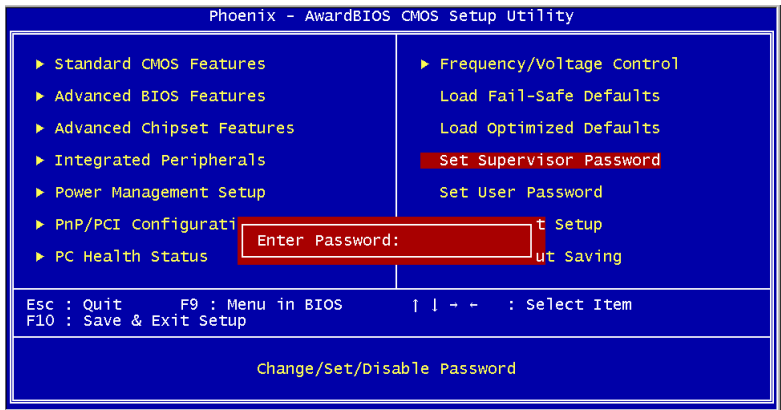
To abort the process at any time, press Esc.

In the Security Option item in the BIOS Features Setup screen, select System or Setup:

System   Enter a password each time the system boots and when-
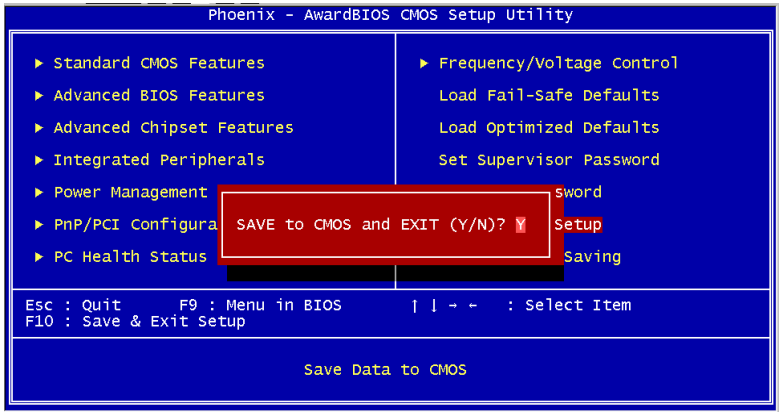
ever you enter Setup.

Setup   Enter a password whenever you enter Setup.

NOTE: To clear the password, simply press Enter when asked to enter a password. Then the password function is disabled.

```
            Phoenix - AwardBIOS CMOS Setup Utility

   ▶ Standard CMOS Features        ▶ Frequency/Voltage Control
   ▶ Advanced BIOS Features          Load Fail-Safe Defaults
   ▶ Advanced Chipset Features       Load Optimized Defaults
   ▶ Integrated Peripherals          Set Supervisor Password
   ▶ Power Management Setup          Set User Password
   ▶ PnP/PCI Configurati┌───────────────────────┐t Setup
   ▶ PC Health Status   │ Enter Password:       │ut Saving
                        └───────────────────────┘

   Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←  : Select Item
   F10 : Save & Exit Setup

                  Change/Set/Disable Password
```
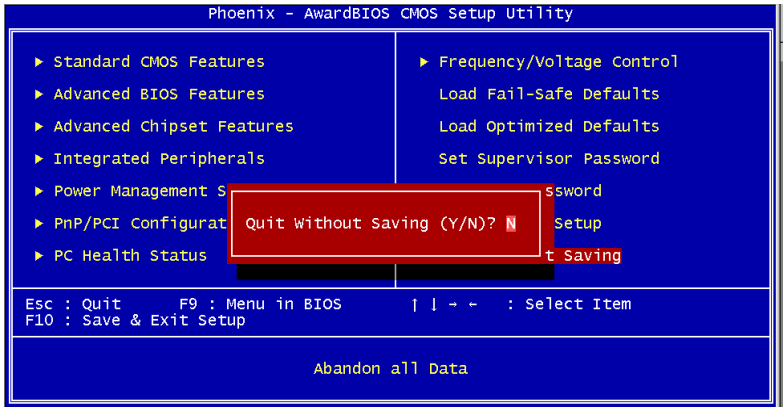
Save & Exit Setup

If you select this option and press <Enter>, the values entered in the setup utilities will be recorded in the chipset's CMOS memory. The microprocessor will check this every time you turn on your system and compare this to what it finds as it checks the system. This record is required for the system to operate.

```
             Phoenix - AwardBIOS CMOS Setup Utility
  ▶ Standard CMOS Features        ▶ Frequency/Voltage Control
  ▶ Advanced BIOS Features           Load Fail-Safe Defaults
  ▶ Advanced Chipset Features         Load Optimized Defaults
  ▶ Integrated Peripherals           Set Supervisor Password
  ▶ Power Management        ┌──────────────────────────┐sword
  ▶ PnP/PCI Configura       │ SAVE to CMOS and EXIT (Y/N)? Y│ Setup
  ▶ PC Health Status        └──────────────────────────┘Saving

  Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item
  F10 : Save & Exit Setup

                      Save Data to CMOS
```

Exit without saving

Selecting this option and pressing <Enter> allows you to exit the
Setup program without recording any new value or changing old one.

```
                Phoenix - AwardBIOS CMOS Setup Utility
 ┌──────────────────────────────────────────────────────────────────┐
 │  ▶ Standard CMOS Features        ▶ Frequency/Voltage Control       │
 │  ▶ Advanced BIOS Features           Load Fail-Safe Defaults        │
 │  ▶ Advanced Chipset Features        Load Optimized Defaults        │
 │  ▶ Integrated Peripherals           Set Supervisor Password        │
 │  ▶ Power Management S┌──────────────────────────┐ssword            │
 │  ▶ PnP/PCI Configurat│ Quit Without Saving (Y/N)? N│ Setup         │
 │  ▶ PC Health Status  └──────────────────────────┘t Saving         │
 │                                                                    │
 │  Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item    │
 │  F10 : Save & Exit Setup                                           │
 │                         Abandon all Data                           │
 └──────────────────────────────────────────────────────────────────┘
```

Limitations

1. Due to Intel chipset limitation, when CMOS was set up to "LCD + CRT", the LCD display will not support full-screen appearance.

2. Because of USB chipset limitation, front USB port and Card reader USB interface are linked together, when user "disable" front USB port (USB Port 3 controller), the card reader must be forced to disable at same time.

Chapter

4

Driver Installation

There are several installation ways depending on the driver package under different Operating System application.

Please follow the sequence below to install the drivers:

Step 1 – Install Intel INF Update For Windows 95-XP Driver

Step 2 – Install Intel 845G Graphic Driver

Step 3 – Install Intel Application Accelerator for Windows 95-XP

Driver

Step 4 – Install Intel LAN Driver V6.4

Step 5 – Install Realtek AC97 codec Driver

Step 6 – Card Reader Driver

Step 7 – Touch Driver

USB 2.0 Drivers are available for download using Windows Update for both Windows XP and Windows 2000. For additional information regarding USB 2.0 support in Windows XP and Windows 2000, please visit www.microsoft.com/hwdev/usb/.

For installation procedures of each driver, you may see the details in the following.

Installation

Applicable for Windows 2000/XP/9x/ME

1. From the CD-ROM, select the desired component Driver folder, and then select the desired Operation System folder to double click on the Setup.exe icon. A driver installation screen will appear.
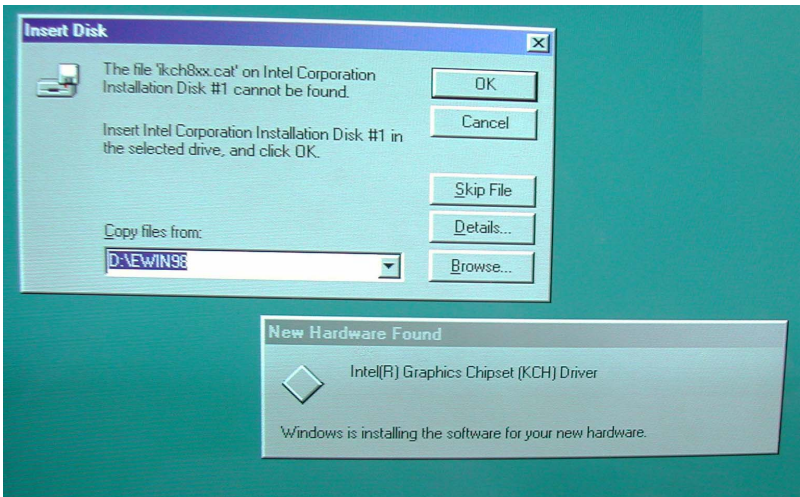
   Notice:

   1. **Take VGA driver installation under Windows 98 for example, choose the corresponding folder depending on your OS**

   2. **When installing the VGA driver under Windows 98, the**

system will ask you to reboot the computer. During the installation process, it will appear the pop up window as following.

3. Please press ok and it will appear the pop up window as following.


4. Please change the path to the installation folder and search for the two files named as ikch8xx.cat and isb8xx.cat.

5. The LCD signal may be turned off automatically after the VGA driver is installed, please press "Ctrl+Alt+F3" to enable LCD signal again.

2. A driver installation screen will appear, please follow the onscreen instructions to install the driver in sequence and click

on   the   Next   button.
**(Notice: In some cases the system will ask you to insert
Windows 98 CD ROM and key in its path. Then click on
the OK button to key in path.)**

3. Click on the **Finish** button to finish installation process. And
    allow the system to reboot.

Card Readers Driver Installation

1. Enter **Step 6 - Card Reader Driver** folder.

2. Double click on the **Setup exe.** file.

3. Language setting: Choose the highlighted item below to operate
    your system in English.
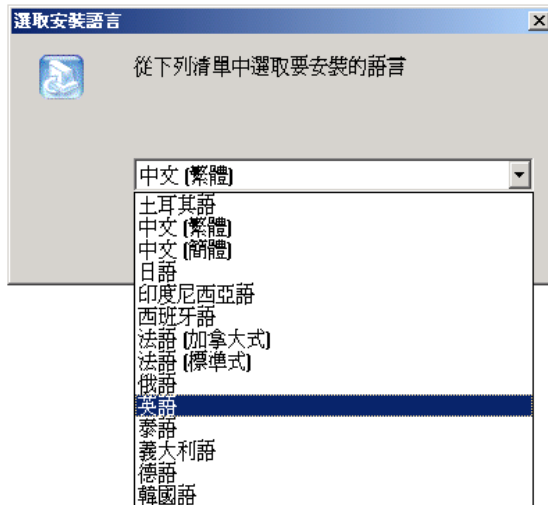
4. Follow the instruction that the window will show to finish the
    installation.

Touch screen Driver Installation

Touch screen Driver installation won' t be included in this section. The instruction of touch screen driver will attached in the CD-ROM as well.

Please see the following route:

Panel PC 20810000XX // Driver //Touch screen

Each touch screen driver folder will be attached to the user manual.

Limitations

The limitations you may need to notice when you start to install the driver. For the sake of USB4 and USB5 community of linkage, the card reader must be forced to disable when the users "disable" front USB port.

1. For the sake of the bugs of card reader driver, two useless disk drives will appear: XD and Flash after installing drivers successfully. Please ignore the two useless disk drives.