

**AOP-8150WT**

Intel® Pentium® M /

Celeron® M Processor

15" XGA 400 nits color TFT LCD

10/100Base-TX, Giga Ethernet

or Wireless LAN (optional)

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## **Packing List**

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

- 1 AOP-8150WT Operator Panel PC
- 10 Mounting Brackets & Screws
- 1 Power cord (optional)
- 1 Transfer board for CD-ROM
- 1 CD-ROM for manual (in PDF format) and drivers

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

**Warning**



1. Use a 3 V @ 200 mA lithium battery
2. Packing: please carry the unit with both hands, handle with care
3. Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator
4. Do not remove CompactFlash storage card while reading from or writing into the storage card.

## Safety & Warranty

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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 plug-in 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 may 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 may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment has to be opened by qualified service people only.

14. If one 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. CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

**DISCLAIMER:** This set of instructions is given according to IEC 704-1. AAEON disclaims all responsibility for the accuracy of any statements contained herein.

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Chapter

1

# General Information

## Introduction

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AOP-8150WT operator panel PC is a high performance solution features all-in-one SBC with Intel Pentium<sup>®</sup> M 1.6GHz or Celeron<sup>®</sup> M 1.3GHz processor. That is designed to serve as a human machine interface (HMI) and as a multimedia computer. It is a PC-based system with 15" high-brightness (400 nits), true-color and wide-view-angle TFT LCD display. On-board Ethernet controller, multi-COM port interfaces, digital I/O and DVI. In addition, its "fit anywhere" design makes it very flexible and able to be used in many different kinds of installations. It can be wall mounted, panel mounted or stood upright on a desktop.

For system integrators, this simple, complete, compact and highly integrated multimedia system let you easily build a panel PC into your applications. Common industrial applications include factory automation systems, precision machinery, and production process control. It is also suitable for many non-industrial applications, including interactive kiosk systems, entertainment management, and car park automation. Our panel PC is a reliable, cost-effective solution to your application's processing requirements.

## Features

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- 15" XGA 400 nits color TFT LCD display
- Slim and High Performance solution: All-in-one SBC with Intel® Pentium® M 1.6GHZ or Celeron® M 1.3GHz processor
- Touchscreen, Mini PCI and 6-in-1 card reader support
- Windows® XP Embedded support (optional)
- 10/100Base-TX, Giga Ethernet (Optional) or Wireless LAN (Optional)

## Specification

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### System

- Display 15" XGA (1024 x 768) color TFT LCD
- CPU Board Intel® Pentium® M 1.6GHz or Celeron® M 1.3GHz processor
- Memory Onboard 512MB / 256MB, supports DDR Memory up to 1GB
- Disk Drive space Slim CD-ROM / Combo / DVD  
2.5" HDD (Anti-vibration)
- Expansion One 6-in-1 card reader  
One Mini PCI slot  
One PCI slot (Optional)

### I/O

- Serial Port 4 x RS-232, 1 x RS-232/422/485  
3 x USB 2.0 ports  
1 x parallel port  
1 x VGA port  
1 x PS/2 keyboard, 1 x PS/2 mouse
- Audio Mic-in, Line-in, Line-out,
- Ethernet One 10/100Base-TX RJ-45 connector; One 10/100Base-TX or One Giga RJ-45 connector (Optional)
- Digital I/O One DB-9 (Female) connector for digital IO (Support 8 in or 8 out)

- Front Panel                      Resistive touchscreen
- Other                                Supports Mini PCI Wireless LAN with Antenna (Optional)  
Supports Mini PCI Capture card (Optional)  
One PCI expansion kit (Optional)
- Power Supply                    75W, AT, AC-in 100~240V
- OS support                        Windows<sup>®</sup> 2000, Windows<sup>®</sup> XP, Windows<sup>®</sup> XP Embedded (Optional)

**LCD**

- Display Type                    15" XGA color TFT LCD
- Max. Resolution                1024 x 768
- Max. Colors                      16.7M colors
- Dot Size                          0.297mm x 0.297mm
- Luminance                        400 cd/m<sup>2</sup>
- Viewing Angle                  170<sup>o</sup> (H) 170<sup>o</sup> (V)
- Back Light MTBF                50,000hrs

**Touchscreen**

- Type                                8-wire, Analog resistive
- Light Transmission            75%
- Resolution                        2048 x 2048
- Interface                         RS-232 (COM 4)
- Lifetime                          1 million activations

**Mechanical**

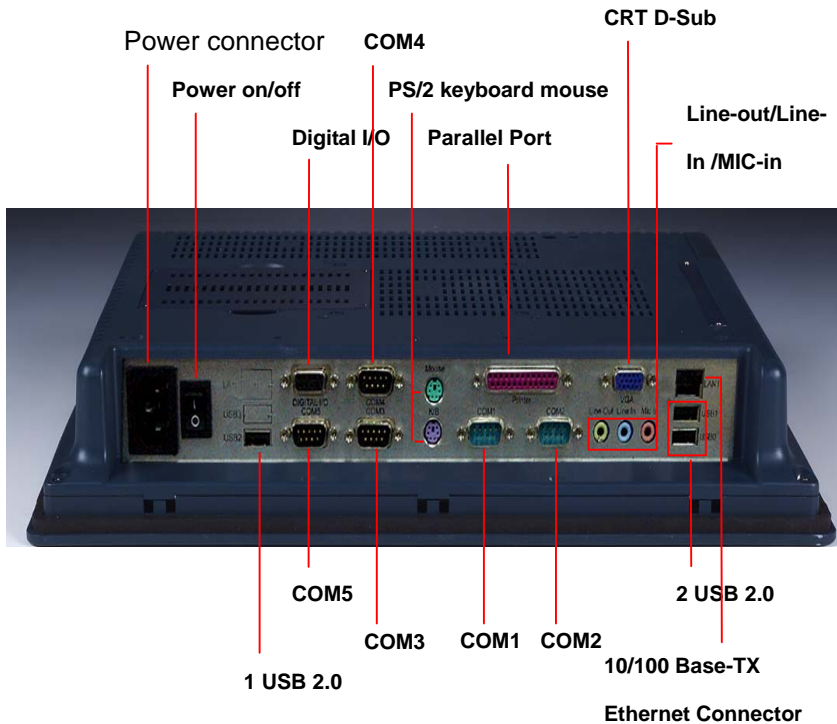
- Construction Plastic chassis (IP65 certified front panel)
- Front Panel Color PMS 2965C (Dark Blue)
- Mounting Panelmount, VESA 100mm, Desk Top Stand (Optional)
- Dimension 16" (W) x 12.2" (H) x 2.6" (D)  
(407mm x 310.5mm x 65mm)
- Cutout Size 15.5" x 11.7" (394mm x 298mm)
- Gross Weight 13.2 lb (6 kg)

**Note:** All AAEON's LCD products are manufactured with High precision technology. However, in all LCD panels there maybe a small number of defective pixels that do not change color. This is a normal occurrence for all LCD displays from all manufacturers and should not be noticeable or objectionable under normal operation. AAEON qualify the LCD panel following industry standard: total 7 dead pixels on a screen or if there are 3 within 1 inch square area of each other on the display.

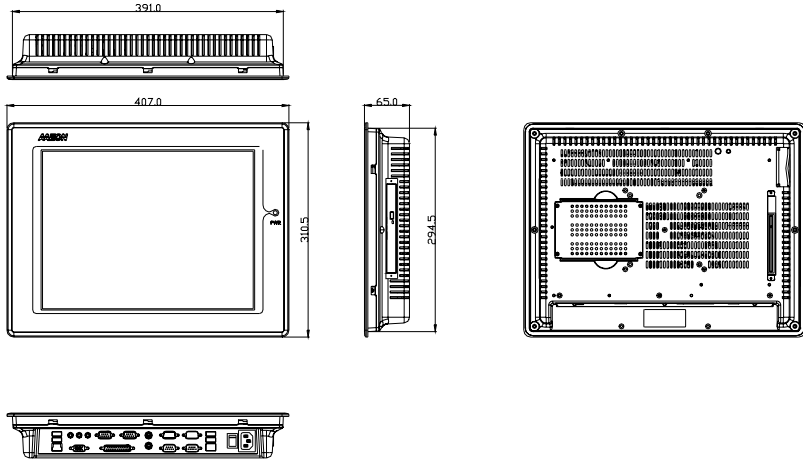
Front Side



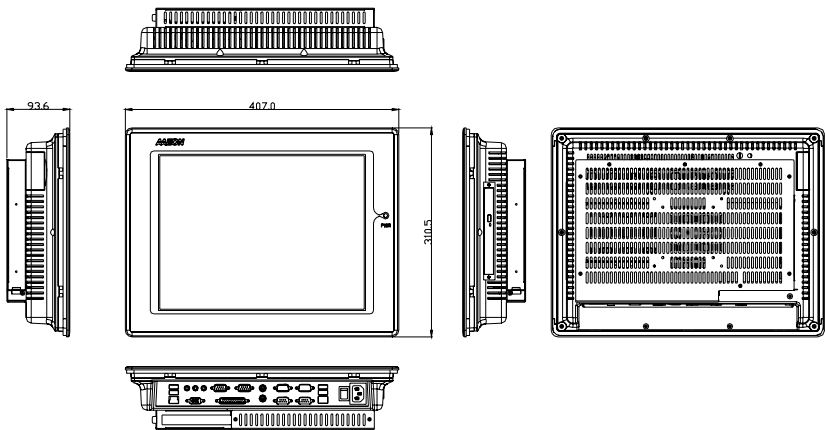
Rear Side



## Dimension



### With PCI extension kit



Chapter

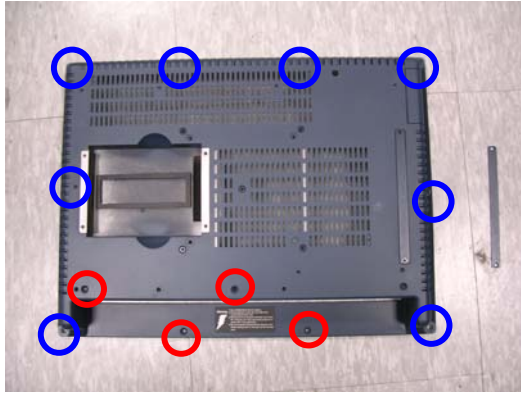
2

**Hardware  
Installation**

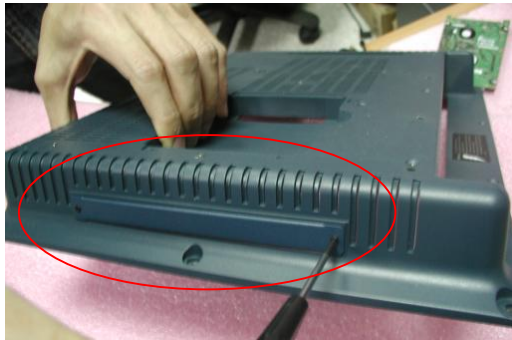
## CD-ROM Installation

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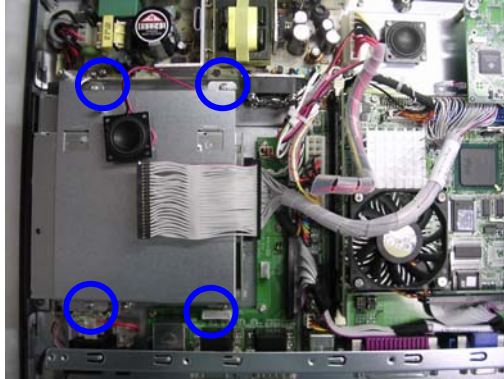
1. Disassemble the plastic cover of AOP-8150WT



2. Take the bracket off and open the rear side of AOP-8150WT



3. Unfasten the four screws



4. Get the CD-ROM and bracket Ready



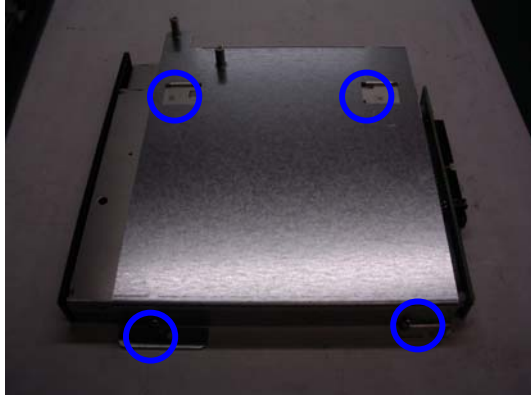
5. Fasten screws on bracket to adhere to the CD-ROM



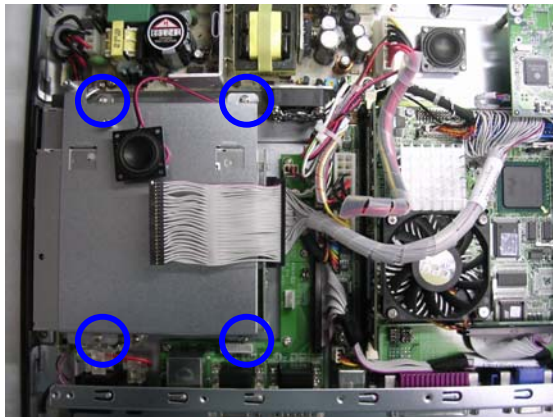
6. Get the CD-ROM cover ready and close the cover



7. Fasten the four screws



8. Insert IDE Cable into CD-ROM Module, fix CD-ROM Module into AOP-8150WT and fasten the four screws



9. Fasten the two screws to lock the speaker



10. Lock the plastic cover of the AOP-8150WT and complete the installation



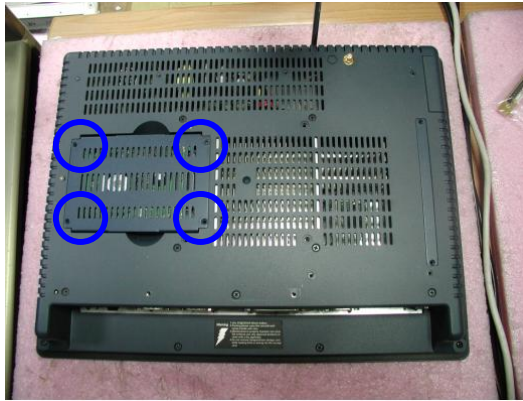
## 2.5" Hard Disk Drive Installation

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We'll show you how to install the Hard Disk Drive into the Panel PC.

When you prepare the following items at hand, you can start installation.

1. Unfasten the four screws and disassemble HDD cover



2. Get the 2.5" HDD ready and fasten the four screws on HDD and put the rubbers on screws



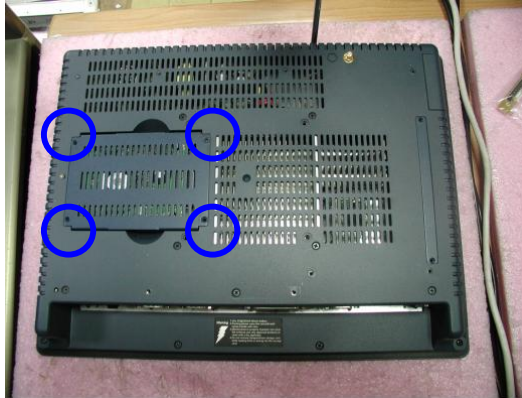
3. Adhere sponge on HDD bracket and place HDD into bracket



4. Connect the IDE Cable to HDD



5. Fasten the four screws on rear side to lock the HDD bracket



## PCI extension kit Installation

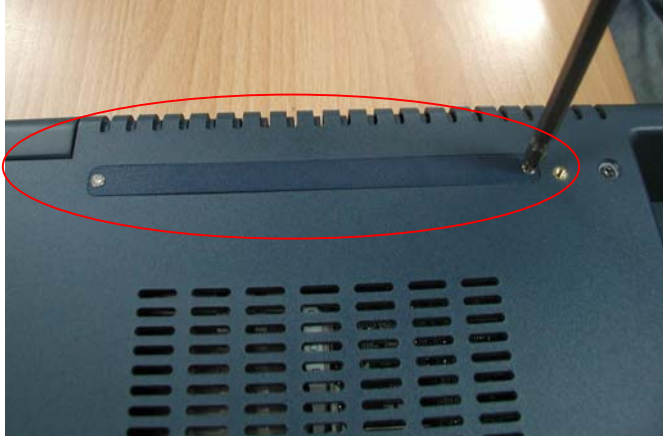
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PCI extension kit will be attached along with the package. Please see the following steps for details.

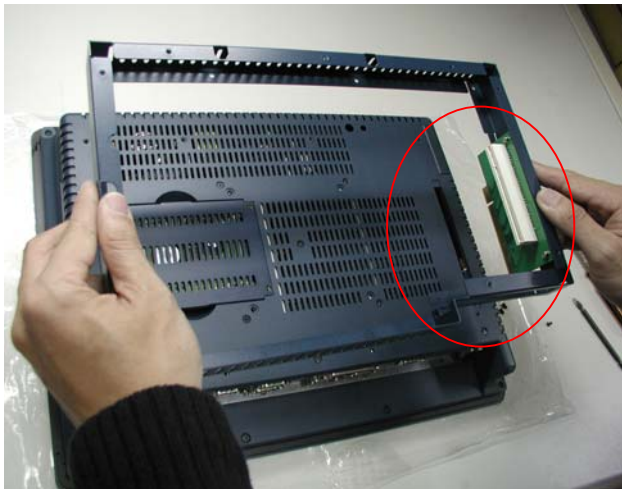
- Step 1: Get the rack ready



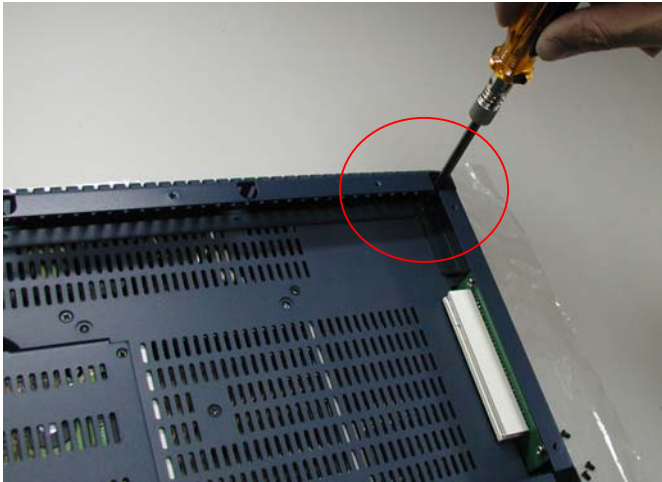
Step 2: Unlock the bar indicated.



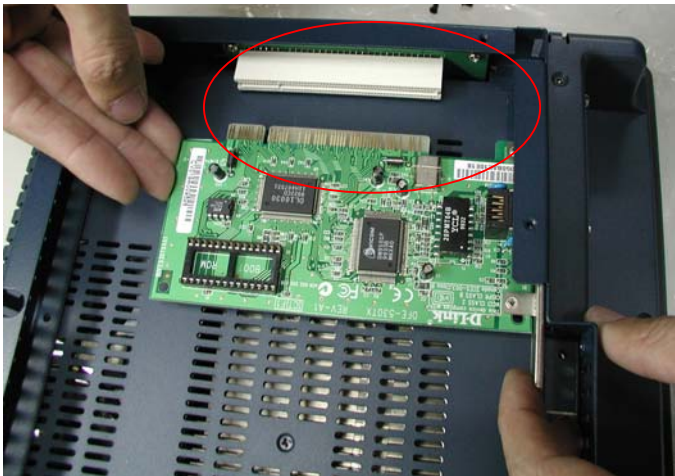
Step 3: Plug Riser card into the socket beneath the bar, and plug the rack on the back of AOP-8150WT.



Step 4: Fix the rack with the screws on the corners.



Step 5: Plug your PCI card into the white slot indicated.



Step 6: You have finished PCI extension card installation.



Step 7: Put the cover over the back of AOP-8150WT.



## Panelmount Installation

The display panel can be mounted into the wall. You will need the screws along with the mounting brackets, which be packed in the accessory box.

Follow the steps below:

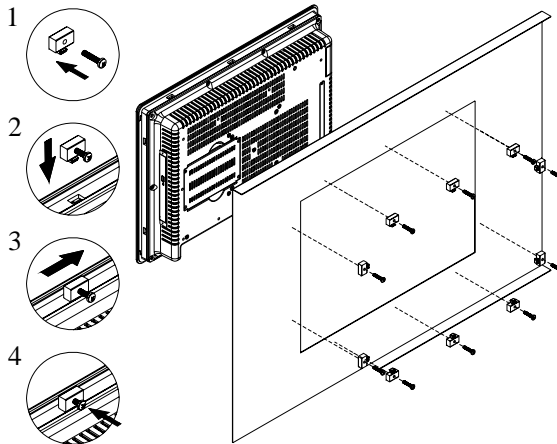
Before you start to follow the instructions, please place the display panel into the wall. See the following illustration on the left.

Step 1: Place the mounting brackets and plug the screw.

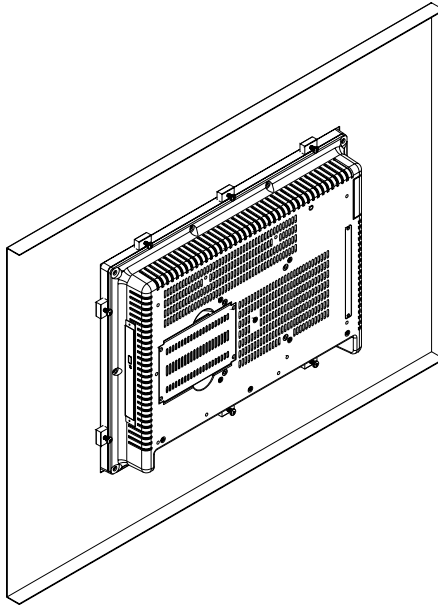
Step 2: Aim the mounting set at the hole on the monitor.

Step 3: Move the mounting set to the narrow gauge and fix it with screws.

Step 4: You've completed the preliminary when the mounting set is tightened. Next, repeat the steps and tighten all mounting set around the monitor until the monitor is firmly mounting on the wall.



## Complete Illustration



**RS-232 PORT: COM1/ COM3/ COM4/ COM5;**

**RS-232/422/485 PORT: COM2 (MALE)**

Pin	Signal	Pin	Signal
1	DCD (422TXD- / 485DATA-)	2	RXD (422RXD+)
3	TXD (422TXD+ / 485DATA+)	4	DTR (422RXD-)
5	GND	6	DSR
7	RTS	8	CTS
9	RI / +5V / +12V		

**VGA PORT (FEMALE)**

Pin	Signal	Pin	Signal
1	RED	2	GREEN
3	BLUE	4	N.C.
5	GND	6	GND
7	GND	8	GND
9	+5V	10	GND
11	N.C.	12	DDC DATA
13	HSYNC	14	VSYNC
15	DDC CLOCK		

**Digital I/O 8-bit Connector**

This connector offers 4-pair of digital I/O functions and address is 801H. The pin definitions are illustrated below:

Pin	Signal	Pin	Signal
5	IN0	4	IN1
3	IN2	2	IN3
1	OUT0	9	OUT1
8	OUT2	7	OUT3
6	+5V	10	GND

The pin definitions and registers mapping are illustrated below:

Address: 801H

**Note:** 4 IN/ 4 OUT, 8 IN, 8 OUT are chosen from BIOS.

## LAN 0 & LAN 1 PORT (FEMALE)

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Pin	Signal	Pin	Signal
1	TX+	2	TX-
3	RX+	4	BI_D3+ {GIGA}
5	BI_D3-{GIGA}	6	RX-
7	BI_D4+{GIGA}	8	BI_D4-{GIGA}

## USB2.0 PORT - USB 0/1/2 (FEMALE)

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Pin	Signal	Pin	Signal
1	+5 VDC	2	D-
3	D+	4	GND

Chapter

3

# **BIOS Installation**

## System Test and Initialization

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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 AOP-8150WT 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

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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.

### 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 auto detect DIMM/PCI clock and spread spectrum.

### **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.

**You can refer to the "AAEON BIOS Item Description.pdf" file in the CD for the meaning of each setting in this chapter.**

Chapter

4

# Driver Installation

The AOP-8150WT comes with a AutoRun CD-ROM that contains all drivers and utilities that can help you to install the driver automatically. Insert the driver CD, the driver CD-title will auto start and show the installation guide. If not, please follow the sequence below to install the drivers.

***Follow the sequence below to install the drivers:***

Step 1 - Install Intel INF Update for Windows 9X-2003

Step 2 - Install Intel Extreme Graphics 2 Driver

Step 3 - Install Intel LAN Driver

Step 4 - Install Realtek AC97 codec Driver

Step 5 - Install Card Reader Driver

Touch panel installation

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/](http://www.microsoft.com/hwdev/usb/).

Please read instructions below for further detailed installations.

## Installation:

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Insert the AOP-8150WT CD-ROM into the CD-ROM drive. And install the drivers from Step 1 to Step 5 in order.

### Step 1 - Install Intel INF Update for Windows 2000/XP

1. Click on the **Intel INF Update for Windows 9x-2003** folder and then double click on the **setup.exe**
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically
4. Please re-start your computer

### Step 2 - Install Intel Extreme Graphics 2 Driver

1. Click on the **Intel Extreme Graphics 2 Driver** folder and then double click on the **setup.exe**
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically
4. Please re-start your computer

**Remark:** You can choose the different display ways by pressing below hot key,

C+A+F1=CRT, C+A+F2=LCD, C+A+F3=TV, C+A+F4=DVI,  
C+A+F12=Graphic Control Panel

### Step 3 - Install Intel LAN Driver

1. Click on the **Intel LAN Driver** folder and click on the folder of **82562EZ**
2. Double click on **Autorun.exe**
3. Follow the instructions that the window shows

4. The system will help you install the driver automatically

#### Step 4 - Install Realtek AC97 codec Driver

1. Click on the **Realtek AC97 codec Driver** folder and then double click on the **wdm\_a361.exe**
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

#### Step 5 - Install Card Reader Driver

1. Click on the **Card Reader Driver** folder and then double click on the **setup.exe**
2. Follow the instructions that the window shows you
3. The system will help you install the driver automatically

#### Touch Panel Installation

If the OS system is Windows 2000-XP or Windows 98-Me, the Autorun program will help you to install the driver automatically. For detailed information, please refer to the “ PenMount Installation Guide ” in the folder of **Touch Panel**.

#### Note:

Under the Window OS environment, if the CRT connector is connected to display monitor by the data switch device, the user need to set the color and resolution from Intel Graphic utility (VGA driver) instead of setting from the control panel in case of the wrong display appearance.

## FAQ

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### 1. Installing Windows® 2000 from a USB CD-ROM Drive may cause a "Stop 0x7B" Error

#### Answer:

Only if you install Windows® 2000 SP3 or upgraded version, the error will be automatically corrected.

Categorized List of Fixes in Windows® 2000 Service Pack 3 (SP3)  
<http://support.microsoft.com/default.aspx?scid=%2fsupport%2fser vicepacks%2fwindows%2f2000%2fsp3fixlist.asp>

Q294820 - Installing Windows® 2000 from a USB CD-ROM Drive May Cause a "Stop 0x7B" Error  
<http://support.microsoft.com/default.aspx?scid=kb;en-us;294820>

PSS ID Number: 294820

Article Last Modified on 5/28/2003

The information in this article applies to:

Microsoft Windows® 2000 Server SP1

Microsoft Windows® 2000 Server SP2

Microsoft Windows® 2000 Advanced Server SP1

Microsoft Windows® 2000 Advanced Server SP2

Microsoft Windows® 2000 Professional SP1

Microsoft Windows® 2000 Professional SP2

This article was previously published under Q294820

## **SYMPTOMS**

If you are using a Universal Serial Bus (USB) CD-ROM drive to install Windows® 2000 on certain legacy-free computers, you may receive a "Stop 0x0000007B" Inaccessible\_boot\_device error message while booting from the installation CD. Because many legacy-free computers do not have a standard CD-ROM drive or floppy disk drive, the USB CD-ROM drive may be the only method for installing or recovering Windows®.

## **CAUSE**

Windows® 2000 Setup does not support certain USB CD-ROM drives as bootable devices. This causes error message during the Text-mode portion of Setup.

## **RESOLUTION**

Please contact your computer manufacturer for information about obtaining updated Windows® 2000 Setup disks that you can use to boot your computer with a USB CD-ROM device.

## **STATUS**

Microsoft has confirmed that this is a problem in the Microsoft products that are listed at the beginning of this article.