AOP-8120XT

Intel® Low Voltage Processor
Fanless Operator Panel PC
with 12.1" TFT LCD

AOP-8120XT Manual 3rd Ed
May 2009

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Packing List

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

- 1 AOP-8120XT Fanless Panel PC
- 1 Mount brackets and screws for panel mount
- 1 Power cord (Optional)
- 1 CD-ROM for manual (in PDF format) and drivers

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

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

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 should be opened only by qualified service personnel.

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.

Below Table for China RoHS Requirements
产品中有毒有害物质或元素名称及含量

AAEON Panel PC/ Workstation

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板及其电子组件	×	○	○	○	○	○
外部信号连接器及线材	×	○	○	○	○	○
外壳	×	○	○	○	○	○
中央处理器与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
液晶模块	×	○	○	○	○	○
光驱	×	○	○	○	○	○
触控模块	×	○	○	○	○	○
电源	×	○	○	○	○	○

O：表示该有毒有害物质在该部件所有均质材料中的含量均在 **SJ/T 11363-2006** 标准规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 **SJ/T 11363-2006** 标准规定的限量要求。

备注：
一、此产品所标示之环保使用期限，系指在一般正常使用状况下。
二、上述部件物质中央处理器、内存、硬盘、光驱、触控模块为选购品。

Contents

Chapter

1

General Information

1.1 Introduction

The AOP-8120 panel PC is a Pentium M or Low Voltage Celeron processor computer that is designed to serve as a human machine interface (HMI) and as a multimedia computer. It is a PC-based system with 12.1" color TFT LCD display, on-board Ethernet controller, multi-COM port interfaces and an audio controller. With a built-in internal IDE connectors, the AOP-8120 is as compact and user friendly as a multi-function computer. 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.

1.2 Feature

- 12.1" TFT SVGA LCD
- Onboard Pentium M 1.6GHz or Low Voltage Intel Celeron 1.3G/600MHz Processor
- Anti-vibration Disk Drive Bay for Hard Disk Drive
- TouchScreen, Mini PCI and CompactFlash Card Support
- 10/100Base-TX or Gigabit Ethernet (Optional)
- Windows CE.NET 5.0 and Windows XP Embedded (Optional)
- Up to 8 In or 8 Out Digital I/O
- Slim and Fanless Solution (Celeron M 600MHz)
- Dual Independent Displays (Under Windows XP)

1.3 Specification

System

• CPU	Onboard Pentium M 1.6GHz or Celeron M 1.3 GHz/600MHz processor
• Memory	Supports up to 1GB DDR SDRAM
• LCD / CRT Controller	Intel 852GM, shared up to 32MB
• Ethernet	Realtek 8100C 10/100Base-TX RJ-45 connector x 1; Realtek 8100C 10/100Base-TX RJ-45 connector x 1 or 8110S (Optional) 10/100/1000Base-TX RJ-45 connector x 1 (Optional)
• I/O Port	3 serial ports: 2 x RS-232, 1 x RS-232/422/485; 1 parallel port (supports ECP/EPP); 1 PS/2 mouse port; 1 PS/2 keyboard port; 1 VGA port; 4 USB 2.0 ports; Mic in, Line in, Line out, S/P DIF out; 1 digital I/O (supports up to 8 in or 8 out)
• Storage Disk Drive	Anti-vibration 2.5” HDD
• Expansion Slot	1 x Mini PCI slot, 1 x

	CompactFlash Slot
• OS Support	Windows 2000, Windows XP, Windows XP Embedded (optional)

Mechanical

• Construction	Plastic Chassis (IP-65 certified front panel)
• Front Panel Color	PMS 2965C (Dark Blue)
• Mounting	Panelmount, VESA 100mm hole
• Dimension	12.5" (W) x 9.6" (H) x 2.5" (D) (317mm x 243mm x 64mm)
• Carton Dimension	13" (W) x 12.8" (H) x 8.3" (D) (330mm x 320mm x 210mm)
• Gross Weight	9.9 lb (4.5 Kg)

Environmental

• Operating Temperature	32°F~104°F (0°C~40°C)
• Storage Temperature	-4°F~140°F (-20°C~60°C)
• Operating Humidity	10 to 90%@35°C, non-condensing
• Vibration	Random operation 1G, 5~500Hz
• Shock	15G peak acceleration
• EMC	CE/ FCC Class A

Power Supply

• AC Input 90W (Standard Offer)	Input: 90VAC~264VAC@ 47~63Hz Output: +5V @ 5.5A, +12V @ 2.8A

LCD

• Display Type	12.1” color TFT LCD
• Max. Resolution	1024 x 768
• Max. Color	256K
• Dot Size	0.3075mm x 0.3075mm
• Luminance	200 cd/m^2
• Viewing Angle	90^{O}(H) 40^{O}(V)

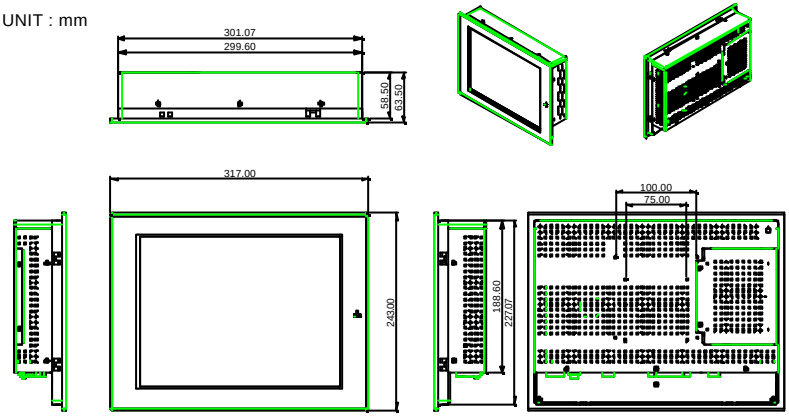
Note: All AAEON's LCD products are manufactured with High precision technology. However, in all LCD panels there maybe a small number of defective pixels that do not change color. This is a normal occurrence for all LCD displays from all manufacturers and should not be noticeable or objectionable under 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.

Touch screen

• Type	8-wire, analog resistive
• Resolution	2048 x 2048
• Light Transmission	78%
• Lifetime	1 million activations

1.4 Dimension

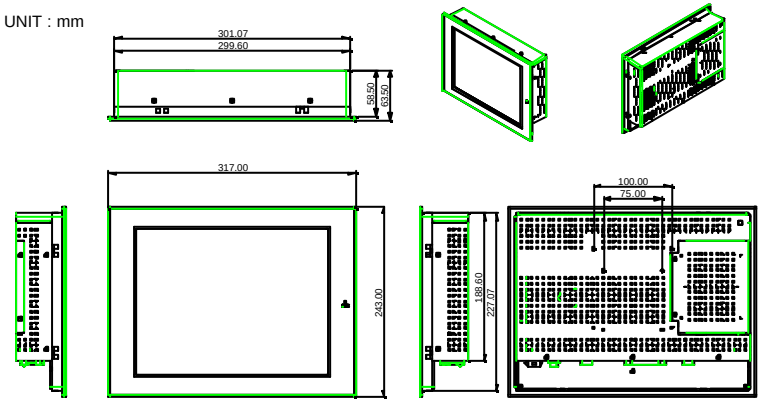
UNIT : mm



AOP-8120XT

CUT OUT SIZE: 304 mm X 230 mm

UNIT : mm



AOP-8120XT(DC)

CUT OUT SIZE: 304 mm X 230 mm

Chapter

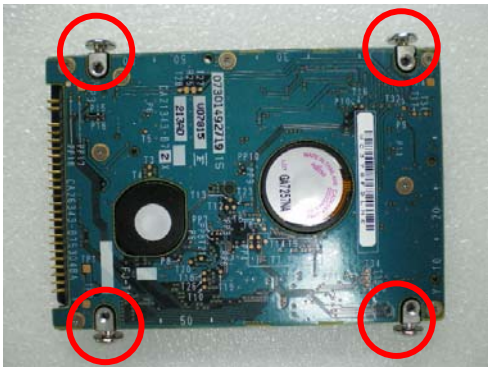
2

Hardware Installation

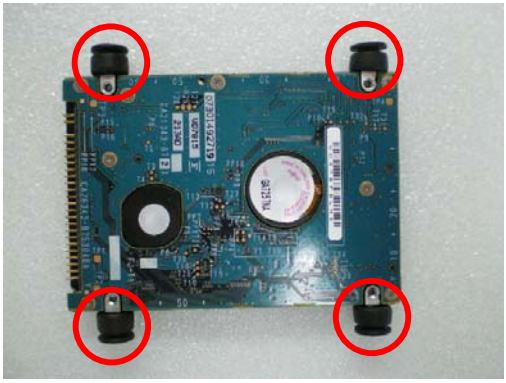
2.1 2.5” Hard Disk Drive Installation

In this section, we’ll show you how to install the Hard Disk Drive into the Panel PC.

Step 1: Fasten two HDD brackets with 4 screws & Rubbers on HDD cover as steps in following photos

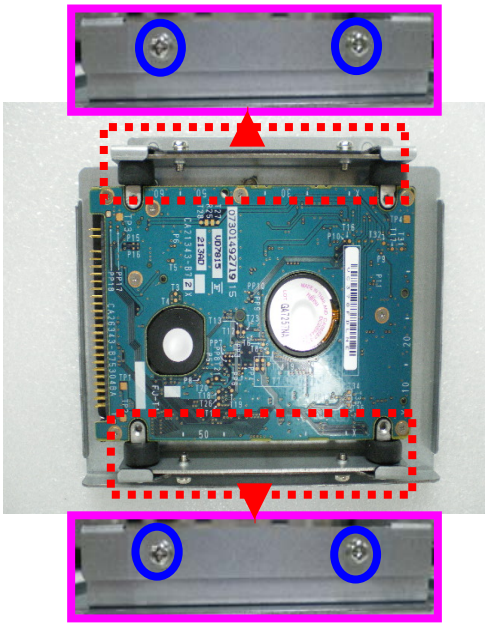


Four screws

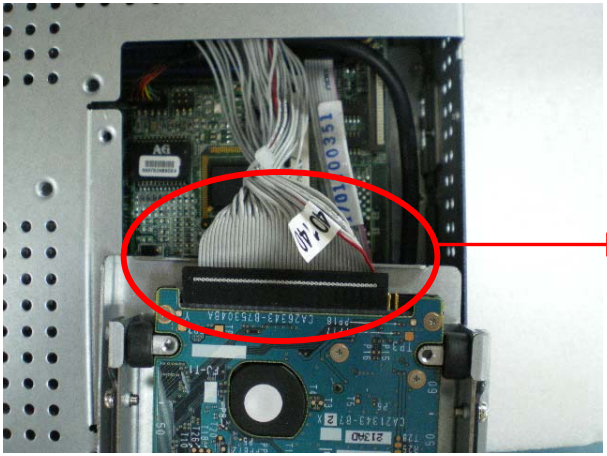


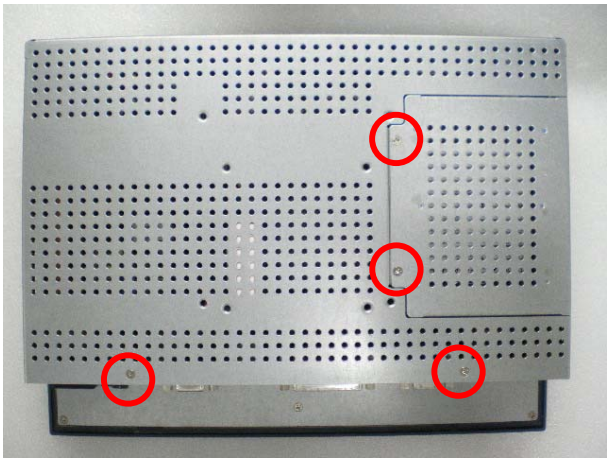
Four rubbers

Step 2: Fix the two HDD brackets on the HDD cover with 4 Screws



Step 3: Plug IDE cable to the HDD with HDD kit and then fasten the HDD kit on the back cover of the AOP-8120XT with four screws





2.2 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.

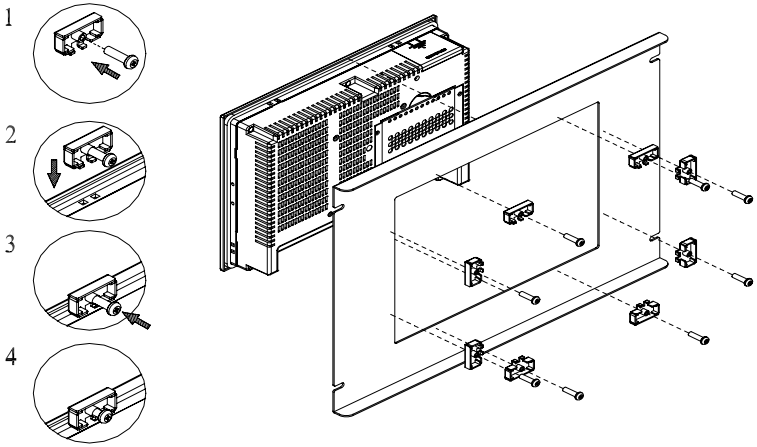
Step 1: Place the mounting brackets and plug the screw.

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

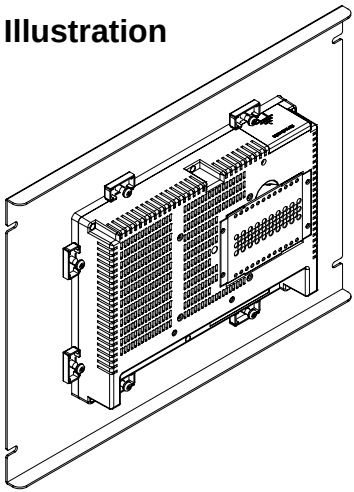
Step 3: Fix the monitor with the mounting set by screwing it.

Step 4: You've completed the preliminary when the mounting set is tightened.

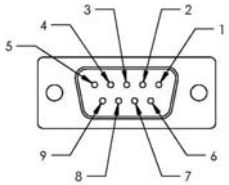
Next, repeat the steps and tighten all mounting set around the monitor until the monitor is firmly mounting on the wall.



Complete Illustration



2.3 Digital I/O 8-bit Connector (I/O Address: 801H)

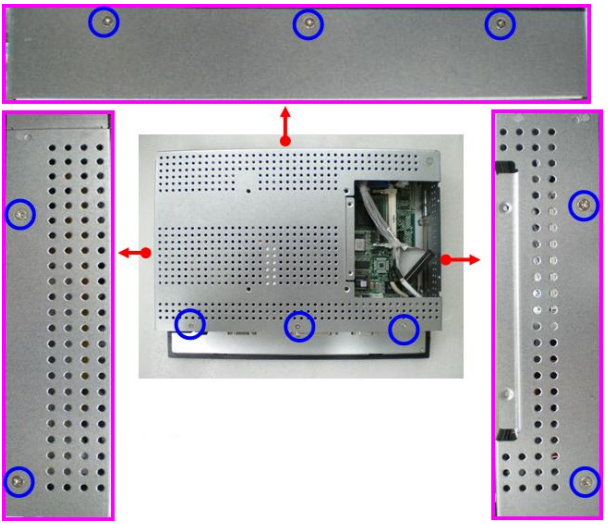


Pin	Signal	Pin	Signal
1	DIN1	2	DIN2
3	DIN3	4	DIN4
5	DOUT1	6	DOUT2
7	DOUT3	8	DOUT4
9	+5V	10	GND

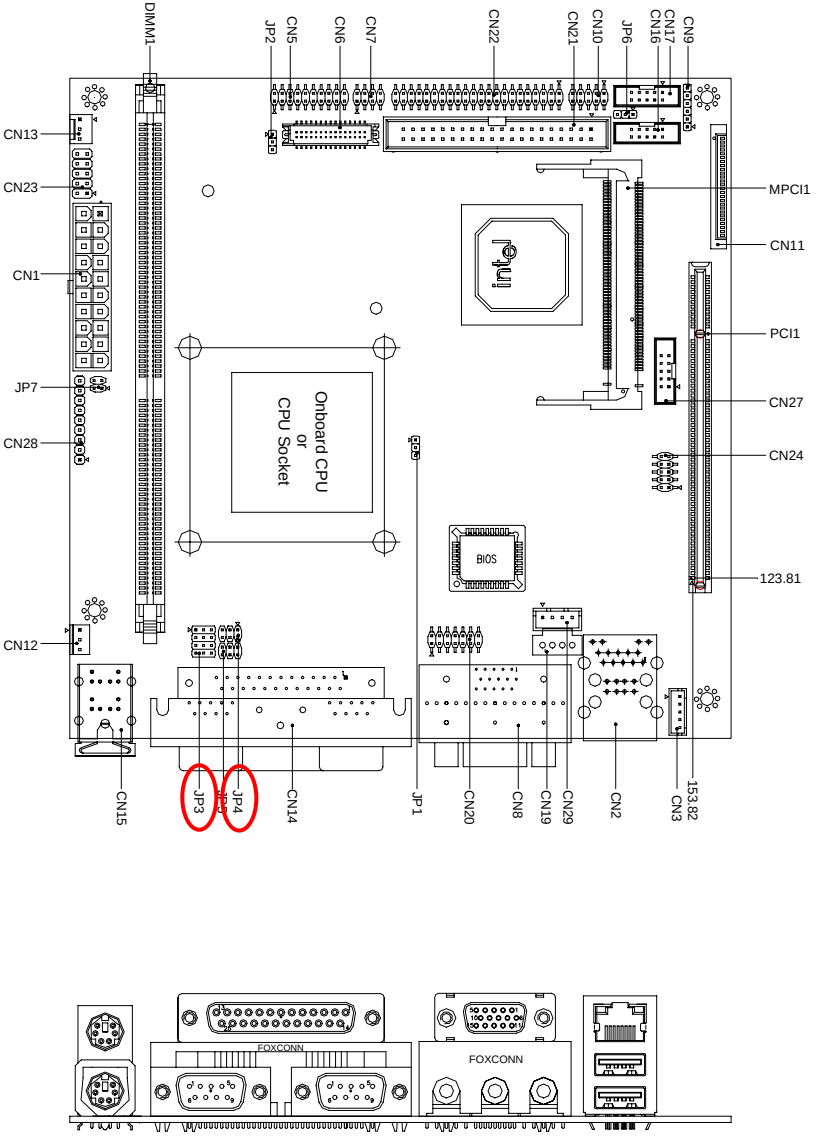
2.4 COM2 RS-232/422/485 Selection (JP3 & JP4)

JP3	JP4	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

Step 1: remove HDD kit and all the screws as below



Step 2: Take off the back cover of AOP-8120XT and change the jumper setting


DIMM1
JP2
CN5
CN6
CN7
CN22
CN21
CN10
JP6
CN16
CN17
CN9
CN13
CN23
CN1
JP7
CN28
CN12
MPCI1
CN11
PCI1
CN27
CN24
123.81
Onboard CPU
or
CPU Socket
BIOS
CN15
JP3
JP5
JP4
CN14
JP1
CN20
CN8
CN19
CN29
CN2
CN3
FOXCONN
FOXCONN

Chapter

3

Award BIOS Setup

3.1 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.

TheAOP-8120XT 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.

3.2 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.

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-8120XT 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 INF Update for Windows 9x-2003

Step 2 – Install Extreme Graphics 2 Driver

Step 3 – Install Intel LAN Driver

Step 4 – Install Realtek AC97 Codec

Step 5 – Install Touchscreen 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/.

Please read instructions below for further detailed installations.

4.1 Installation:

Insert the AOP-8120XT 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 9x-2003

1. Click on the ***Step 1 - 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

Step 2 - Install Intel Extreme Graphics 2 Driver

1. Click on the ***Step 2 - Intel Extreme Graphics 2 Driver*** folder and select the OS folder your system is
2. Double click on the ***setup.exe***
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

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

Ctrl+Alt+F1=CRT, Ctrl+Alt+F2=LCD, Ctrl+Alt+F3=TV, Ctrl+Alt+F4=DVI, Ctrl+Alt+F12=Graphic Control Panel

Step 3 - Install Intel LAN Driver

1. Click on the ***Step 3 - Intel LAN Driver*** folder and double click on ***Setup.exe***
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Step 4 - Install Realtek AC97 codec Driver

1. Click on the ***Step 4 - 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 Touch Panel Driver

For Windows:

1. Click on the ***touch panel*** folder and then click on the ***Driver*** folder
2. Select the OS folder your system is and double click on the ***.exe*** file located in each OS folder
3. Follow the instructions that the window shows
4. The system will help you install the driver automatically

For DOS:

1. Extract and run "install.exe" then follow on screen message for installation.
2. During installation processes, don't choose the serial port (please press enter directly).
3. After driver installation, run "PM2.exe" then choose configure item to set the Penmount 9000 port to com6, IRQ 4 ,I/O base 04F8, baud rate is 19200.
4. If the setting is correct, you can see text "on line" in Green at Bottom right corner.

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.

Appendix

A

FAQ

A.1 FAQ

Installing Windows 2000 from a USB CD-ROM Drive May Cause a "Stop 0x7B" Error

Answer:

Only if you install Windows 2000 SP3 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%2fservicepacks%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.