

Slim Medical Panel PC

ONYX-1721/1921

## ONYX-1721/1921

17"/19" Intel® Atom D525 Dual Core Processor  
High Brightness  
Slim Medical Panel PC

ONYX-1721/1921 Manual  
December, 2011

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## Packing List

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Before you begin installing your Slim Medical Panel PC, please make sure that the following items have been shipped:

- ONYX-1721 or ONYX-1921 Slim Medical Panel PC
- VESA Screws (M4 x 0.7 x 12mm)
- Utility CD-ROM which contains User's Manual (in PDF format), Drivers and Utilities

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

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## 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 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 1950 for IT equipment and UL 60601-1 / IEC 60601 series for systems – shall comply with the standard IEC 60601-1-1, Safety requirements for medical electrical systems. Equipment not complying with UL 60601-1 shall be kept outside the patient environment, as defined in the standard.**

*Caution:*

*It may cause the danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer.*

## Classification

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1. Degree of protection against electric shock: Not classified.
2. Degree of protection against the ingress of water: IPX0
3. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
4. Mode of operation: Continuous
5. Type of protection against electric shock: Class I equipment

## FCC

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***Warning!***



This device complies with Part 18 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.

## UL Module Description

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*Onyx-1721/1921 AC modules are developed to suitable for the Classification Mark requirement*

## Safety Symbol Description

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The following safety symbols are the further explanations for your reference.

	<p><i>Medical equipment with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1, and CAN/CSA C22.2 NO. 601.1</i></p>
	<p><i>Attention, consult ACCOMPANYING DOCUMENTS.</i></p>
	<p><i>Ground wire Protective Ground wire.</i></p>
	<p><i>Medical equipment with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1, and CAN/CSA C22.2 NO. 601.1</i></p>

Below Table for China RoHS Requirements  
 產品中有毒有害物質或元素名稱及含量

ONYX Panel PC/ Workstation

部件名稱	有毒有害物質或元素					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr(VI))	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
印刷電路板 及其電子元件	×	○	○	○	○	○
外部信號 連接器及線材	×	○	○	○	○	○
外殼	×	○	○	○	○	○
中央處理器 與記憶體	×	○	○	○	○	○
硬碟	×	○	○	○	○	○
液晶模組	×	○	○	○	○	○
光碟機	×	○	○	○	○	○
觸控模組	×	○	○	○	○	○
電源	×	○	○	○	○	○

O：表示該有毒有害物質在該部件所有均質材料中的含量均在  
 SJ/T 11363-2006 標準規定的限量要求以下。

X：表示該有毒有害物質至少在該部件的某一均質材料中的含量超出  
 SJ/T 11363-2006 標準規定的限量要求。

備註：

- 一、此產品所標示之環保使用期限，系指在一般正常使用狀況下。
- 二、上述部件物質中央處理器、記憶體、硬碟、光碟機、觸控模組為選購品。

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Chapter

1

**General  
Information**

## 1.1 Introduction

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The ONYX-1721/1921 is a Slim Medical Panel PC with Intel® Atom D525 1.8GHz Dual Core processor-based computer that is designed to serve as a point of care station. It is a PC-based system with 17"/19" true color TFT LCD display, Zero Noise solution; integrated multimedia functions make them the perfect platforms to build comprehensive lifestyle computing applications.

The ONYX-1721/1921 includes all the features of a powerful computer into a slim and attractive chassis. Both of the ONYX-1721/1921 has 350 nits TFT displays with 1280 x 1024 resolution, and with 17" and 19" LCD respectively. Integrating with high brightness LCD is easier to analyze DICOM images. These two models support 2.5" Hard Disk Drive storage function and one mini card slot for WLAN expansion. Moreover, they feature flexible I/O ports, such as six USB2.0, one RS-232, one RS-232/422/485 and two Gigabit LANs.

Convenient operation, Silent, compact, mobility and highly integrated multimedia system let you to focus on healthcare utility, interactive information displays, automation control systems, general desktop usage, multimedia recreation, and other medical requirements.

## 1.2 Features

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- 17"/19" SXGA TFT LCD Display
- Easy To Use, Compact, Simple Design
- Fanless, Zero Noise
- 1000 : 1 Contrast Wide View Angle (ONYX-1721)
- 1000 : 1 Contrast Wide View Angle (ONYX-1921)
- 350 Nits High Brightness (ONYX-1721)
- 350 Nits High Brightness (ONYX-1921)
- Intel® Atom™ D525 1.8GHz Processor
- Resistive Touch screen (Optional)
- 802.11 b/g/n Wireless LAN (Optional)
- Weight: 5.6 Kg, Thickness: 69 mm (ONYX-1721)
- Weight: 6.0 Kg, Thickness: 69.5 mm (ONYX-1921)

## 1.3 Specification

### Hardware Specifications

<b>Display</b>	ONYX-1721: 17" SXGA TFT LCD ONYX-1921: 19" SXGA TFT LCD
<b>System Memory</b>	204-pin DDRIII SODIMM x 2, Max. 4GB
<b>CPU Board</b>	Intel® Atom D525 1.8GHz Dual Core Processor
<b>Drive Bay</b>	2.5" Hard Disk Drive (SATA), Slim DVD Drive(SATA)
<b>Expansion</b>	Mini-Card x 2
<b>Button</b>	Brightness: "+" / "-"; Sound: "+" / "-"; Power SW
<b>I/O</b>	USB 2.0 x 6 RS-232 x 1+ RS-232/422/485 x 1 Gigabit LAN x 2 Speaker x 2 (2W)
<b>Security</b>	Smart Card Reader
<b>Power Requirement</b>	DC 9~30V

### LCD Specifications

<b>Model Name</b>	<b>ONYX-1721 series</b>	<b>ONYX-1921 series</b>
<b>Display Type</b>	17" color TFT LCD	19" color TFT LCD
<b>Max. Resolution</b>	1280 x 1024	1280 x 1024
<b>Max. Colors</b>	16.7M	16.7M
<b>Dot Size (mm)</b>	0.264 x 0.264	0.294 x 0.294
<b>Luminance (cd/m2)</b>	350 (TYP)	350 (TYP)

<b>Viewing Angle</b>	170°(H)	170°(H)
	160°(V)	160°(V)
<b>Contrast Ratio</b>	1000 : 1	1000 : 1
<b>Brightness Control</b>	Yes	Yes
<b>Back Light Life Time</b>	50,000 Hrs	50,000 Hrs

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

### Mechanical Specifications

<b>Architecture</b>	Close-frame
<b>Front Bezel</b>	Plastic bezel with resistive touch screen
<b>Color</b>	White
<b>Mounting / Holder</b>	VESA 75/100mm
<b>Construction</b>	3mm ABS + PC TYPE Plastic housing
<b>Dimension (W x H x D)</b>	ONYX-1721: 15.1" x 13.6" x 2.7" (384mm x 345mm x 69mm) ONYX-1921: 17.5" x 14.9" x 2.8" (444mm x 379mm x 70mm)
<b>Net Weight</b>	ONYX-1721: 12.3lb(5.6 kg) ONYX-1921: 13.2lb(6.0 kg)
<b>Gross Weight</b>	ONYX-1721: 20.5lb(9.3 kg) ONYX-1921: 21.4lb(9.7 kg)
<b>Packing Filler</b>	PE

**Power Supply Specifications**

<b>Input Voltage</b>	EJ GMPU70A-3/EJ GMPU70A-6 100 ~ 240 Vac, 50-60 Hz, 1.5A
<b>Output Voltage</b>	EJ GMPU70A-3 24V, 2.9A, 70W max / EJ GMPU70A-6 12V, 5.8A, 70W max
<b>MTBF</b>	61320 Calculated Hours (7 years)

**Environmental Specifications**

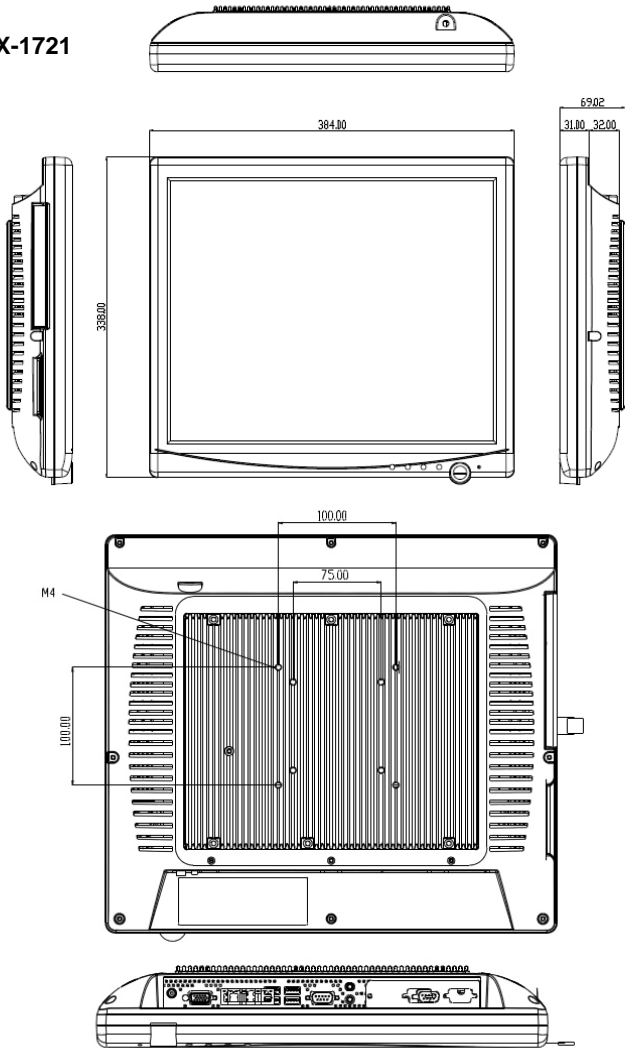
<b>Operating Temperature</b>	0°C to 40°C (32°F ~104°F)
<b>Operating Humidity</b>	5% to 95% RH non-condensing
<b>Storage Temperature</b>	-20°C to 60°C (-4°F ~140°F)
<b>Storage Humidity</b>	5% to 95% RH non-condensing
<b>Vibration</b>	0.5G / 5 ~ 500Hz (Random) / operation
<b>Shock</b>	15G peak acceleration (11 msec. duration) / operation
<b>Drop</b>	76cm (1 Corner, 3 Edge, 6 Surface)
<b>EMI / Safety</b>	CE / FCC Class B/ EN 60601-1
<b>Noise</b>	Zero noise
<b>Input Power Rating</b>	EJ GMPU70A-3/EJ GMPU70A-6 100 ~ 240 Vac, 50-60 Hz, 1.5A

**TouchScreen (Optional)**

<b>Type</b>	5-wire, Analog Resistive
<b>Interface</b>	USB Interface
<b>Resolution</b>	2048 x 2048
<b>Light Transmission</b>	> 80% ± 2%
<b>Life Time</b>	35 million times

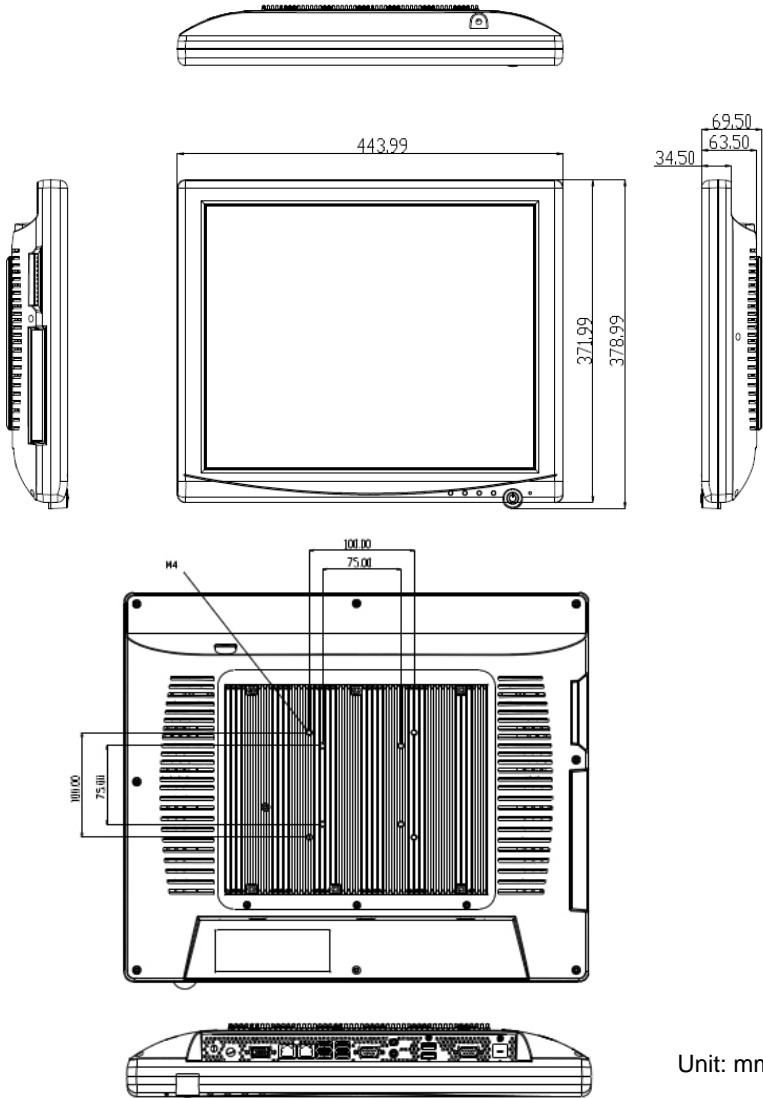
## 1.4 Dimension

ONYX-1721



Unit: mm

ONYX-1921



Unit: mm

Chapter

2

**Hardware  
Installation**

## 2.1 Safety Precautions

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**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.*

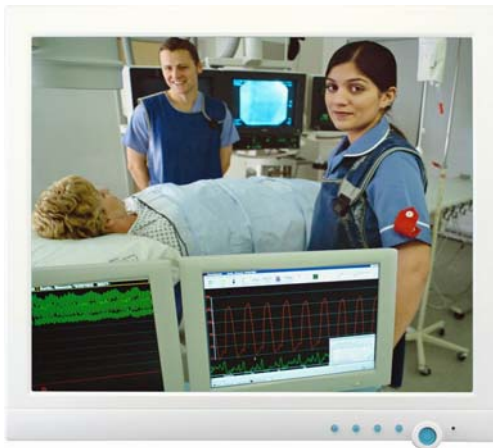
**Caution!**

*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*

## 2.2 A Quick Tour of the ONYX-1721/1921

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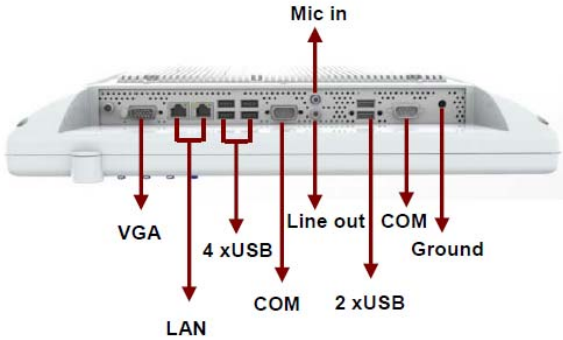
Before you start to set up the ONYX-1721/1921, take a moment to become familiar with the locations and purposes of the controls, drives, connections and ports, which are illustrated in the figures below. When you place the ONYX-1721/1921 upright on the desktop, its front panel appears as shown in Picture 2-1.



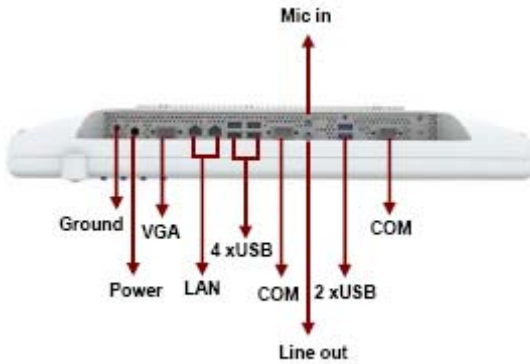
*Picture 2-1: Front View of the Slim Medical Panel PC*

When you turn the Slim Medical Panel PC around and look at its rear cover, the sunken I/O section is at the bottom of the PC, as shown in Picture 2-2. (The I/O section includes various I/O ports, including DC-in, Serial ports, VGA, Ethernet, USB.) Only assemble with the Mini card.

*ONYX-1721*



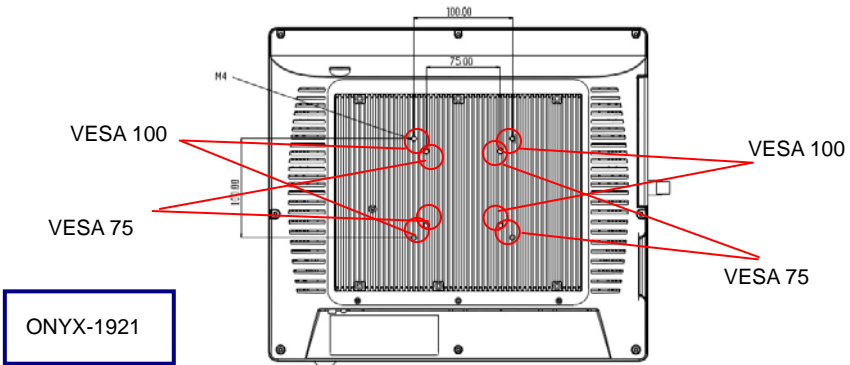
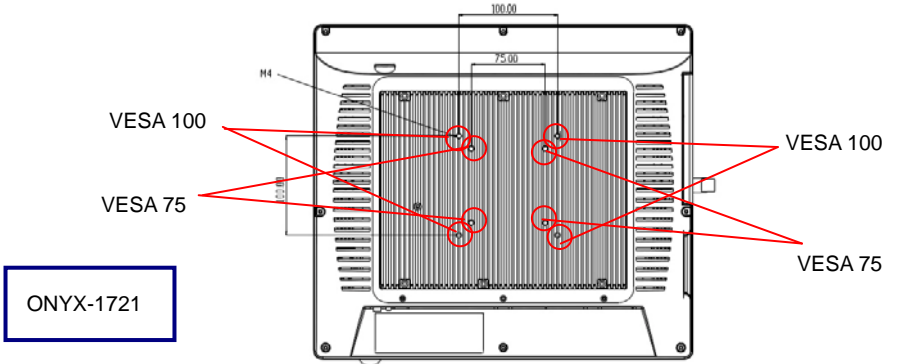
*ONYX-1921*



*Figure 2.2: Rear view of the Slim Medical Panel PC*

### 2.3 VESA Mounting Holes

VESA Screws (M4 x 0.7 x 12mm)



Chapter

3

# Driver Installation

The ONYX-1721/1921 comes with an Auto Run 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 Driver
- Step 2 – Install Intel® VGA Driver
- Step 3 – Install Intel® LAN Driver
- Step 4 – Install VIA® Audio Driver
- Step 5 – Install eGalax Touch Driver (Optional)
- Step 6 – Smart Card 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/](http://www.microsoft.com/hwdev/usb/).

Please read instructions below for further detailed installations.

## 4.1 Installation:

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Insert the ONYX-1721/1921 CD-ROM into the CD-ROM drive. And install the drivers from Step 1 to Step 6 in order.

### Step 1 – Install Intel® INF Driver

1. Click on the **Step 1 – Inf Driver** folder and double click on the **infinst\_autol.exe**
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

### Step 2 – Install Intel® VGA Driver

1. Click on the **Step 2 –VGA driver** folder and select the corresponding folder for your operating system and double click on **Setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

### Step 3 – Install Intel® LAN Driver

1. Click on the **Step 3 – LAN driver** folder and select the corresponding folder for your operating system and double click on **Setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

#### Step 4 –Install VIA Audio Driver

1. Click on the **Step 4 –AUDIO driver** folder and select the corresponding folder for your operating system and double click on **Setup.exe** file
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

#### Step 5 – Install eGalax Touch Panel Driver

1. Click on the **Step 5 –Touch Driver** folder and select the corresponding folder for your operating system and double click on the **executable** file.
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

#### Step 6 – Install Smart Card Driver

1. Click on the **Step 6 –Smart Card Driver** folder and select corresponding folder for your operating system and double click on the **executable** file.
2. Follow the instructions that the window shows
3. The system will help you install the driver automatically

Appendix

A

## I/O Information

## A.1 I/O Address Map

Address	Description	User Address
000-01F	DMA Controller #1	000-000F
020-03F	Interrupt Controller #1, Master	020-021
040-05F	System Time	040-043
060-06F	8042 (Keyboard Controller)	060-064
070-07F	Real time Clock, NMI (non-maskable Interrupt) Mask	070-073
080-09F	DMA Page Register	080-08F
0A0-0BF	Interrupt Controller #2	0A0-0A1
0C0-0DF	DMA Controller #2	0C0-0DF
0F0-0FF	Math Coprocessor	0F0-0FF
170-177	Secondary IDE Channel	170-177
1F0-1F7	Primary IDE Channel	1F0-1F7
2F8-2FF	Serial Port 2	2F8-2FF
378-37F	Parallel Printer Port 1	378-37F
3B0-3DF	EGA / VGA card	3B0-3DF
3F8-3FF	Serial Port 1	3F8-3FF

## A.2 Memory Address Map

Memory Address	Description
00000-9FFFF	System memory
A0000-BFFFF	VGA buffer
C0000-CFFFF	VGA BIOS
E0000-FFFFF	System BIOS

## A.3 IRQ Mapping Chart

IRQ0	System Timer	IRQ8	System CMOS / Real time clock
IRQ1	Keyboard	IRQ9	Microsoft ACPI – Compliant system
IRQ2	Cascade to IRQ Controller	IRQ10	Unused
IRQ3	COM2	IRQ11	Unused
IRQ4	COM1	IRQ12	PS/2 mouse
IRQ5	Unused	IRQ13	FPU
IRQ6	Unused	IRQ14	Primary IDE
IRQ7	Printer	IRQ15	Secondary IDE

## A.4 DMA Channel Assignments

DMA Channel	Function
0	Available
1	Available
2	Unused
3	Available
4	Direct Memory Access Controller
5	Available
6	Available
7	Available

Appendix

**B**

## Miscellanea

## B.1 General Cleaning Tips

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You may need the following precautions before you begin to clean the computer. When you clean any single part or component for the computer, please read and understand the details below fully.

1. Never spray or squirt the liquids directly onto any computer component. If you need to clean the device, please rub it with a piece of dry cloth.
2. Be cautious of the tiny removable components when you use a vacuum cleaner to absorb the dirt on the floor.
3. Turn the system off before you start to clean up the component or computer.
4. Never drop the components inside the computer or get circuit board damp or wet.
5. Be cautious of all kinds of cleaning solvents or chemicals when you use it for the sake of cleaning. Some individuals may be allergic to the ingredients.
6. Try not to put any food, drink or cigarette around the computer.

## B.2 Cleaning tools

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Although many companies have created products to help improve the process of cleaning your computer and peripherals users can also use household items to clean their computers and peripherals. Below is a listing of items you may need or want to use while cleaning your computer or computer peripherals.

Keep in mind that some components in your computer may only be able to be cleaned using a product designed for cleaning that component, if this is the case it will be mentioned in the cleaning tips.

- **Cloth** - A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, we still recommend you to rub it with a piece of cloth.
- **Water or rubbing alcohol** – You may moisten a piece of cloth a bit with some water or rubbing alcohol and rub it on the computer. Unknown solvents may be harmful to the plastics parts.
- **Vacuum cleaner** - Absorb the dust, dirt, hair, cigarette particles, and other particles out of a computer can be one of the best methods of cleaning a computer. Over time these items can restrict the airflow in a computer and cause circuitry to corrode.

- **Cotton swabs** - Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas in your keyboard, mouse, and other locations.
- **Foam swabs** - Whenever possible it is better to use lint free swabs such as foam swabs.

**Note:**

We strongly recommended that you should shut down the system before you start to clean any single components.

## **Please follow the steps below.**

1. Close all application programs
2. Close operating software
3. Turn off power switch
4. Remove all device
5. Pull out power cable

## **B.3 Scrap Computer Recycling**

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If the computer equipments need the maintenance or are beyond repair, we strongly recommended that you should inform us as soon as possible for the suitable solution. For the computers that are no longer useful or work well, please contact with worldwide distributors for recycling.

The worldwide distributors show on the following website:

<http://www.onyx-healthcare.com.tw/Contact.php>

**Note:**

Follow the national requirements to dispose unit