

ONYX-219/217/215

19"/17"/15"

Smart Medical Terminal

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Packing List

The Smart Medical Terminal comes with the following standard parts shown as below. Check and make sure they are included and in good condition. If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

1. Smart Medical Terminal x 1
2. User's Manual CD-ROM x 1
3. VGA Cable 1.8 M x 1
4. USB Cable x 1
5. Audio Cable x 1
6. Medical Adapter x 1

It is better for you to keep the carton and the packing materials in case you might need them for packing or moving in the future.

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 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

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 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.




UL Module Description



Onyx-219/217/215 modules are developed to suitable for the Classification Mark requirement

Safety Symbol Description

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

 The logo consists of a circle with the word "CLASSIFIED" at the top. Inside the circle, the letters "UL" are prominently displayed, with a smaller "C" to the left and "US" to the right.	<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>
 A black triangle with a thick border, containing a black exclamation mark.	<i>Attention, consult ACCOMPANYING DOCUMENTS.</i>
 A circle containing a vertical line that ends in three horizontal bars of decreasing width, representing a ground connection.	<i>Ground wire Protective Ground wire.</i>

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Chapter

1

**General
Information**

1.1 Introduction

AAEON launches a series of smart Medical Terminals – the Onyx-215, Onyx-217 and Onyx-219. The Onyx-215, Onyx-217 and Onyx-219 which are 15" XGA (1024 x 768), 17" SXGA (1280 x 1024) and 19" SXGA (1280 x 1024) respectively are rugged true color TFT display panels that have been approved according to EN60601-1 and UL60601-1 standards for limited power leakage and electronic emission. These two medical level displays' brightness, resolution, and contrast ratio are better than standard LCD displays which cannot fulfill the DICOM requirement. Onyx-215, Onyx-217 and Onyx-219 provide a DVI port for medical images. This DVI port prevents signal distortion during transmission. An **On Screen Display (OSD)** on the front panel allows convenient operation.

These Medical Terminals feature a USB Hub for peripheral connections. In addition, Onyx-215, Onyx-217 and Onyx-219 have an integrated smart card reader, all-in-one card reader, and DVD-ROM to increase efficiency for patient use and medical practitioners. For enhancing e-Health care communication, Onyx-215, Onyx-217 and Onyx-219 can also be equipped with Web CAM and USB photo accessory kits for medical practitioners to communicate with patients more easily.

For medical equipment, IP-65 certification is also important. The Onyx-215, Onyx-217 and Onyx-219 are IP-65 certified and Latex-free. These Smart Medical Terminals are designed to target the medical market and are great for applications such as **IPD** (Inside **P**atient **D**epartment) and medicinal distribution. If you are looking for a smart medical display, the Onyx-215, Onyx-217 and Onyx-219 definitely will be your best choice for medical market applications.

1.2 Feature

The model provides broad range of 19"/17"/15" LCD panels, long lifetime TFT LCD monitors.

- 19" SXGA/17" SXGA/15" XGA true color TFT LCD display
- Integrated USB HUB
- Integrated smart card reader
- Integrated all in one card reader
- Integrated Suck-in DVD-ROM
- Integrated Web CAM & USB phone (optional)
- OSD (On Screen Display) on the front panel for user friendly operation
- Latex free
- Resistive Touchscreen (Optional)

1.3 Specification

Hardware Specifications

Display	ONYX-219: 19" SXGA color TFT LCD ONYX-217: 17" SXGA color TFT LCD ONYX-215: 15" XGA color TFT LCD
Disk Drive Space	Suck-in DVD-ROM 8 in 1 card reader Smart Card reader
OSD Button	Front
I/O	1 x DVI-D 24-pin connector 3 x USB 2.0 ports for Devices --1 x on up side for Web CAM --2 x on rear bracket 1 x USB 2.0 ports for PC Sound: 1 x Line-in 2 x Speakers on back side

LCD Specifications

Model Name	Onyx-219 series	Onyx-217 series	Onyx-215 series
Display Type	19" color TFT LCD	17" color TFT LCD	15" color TFT LCD
Max. Resolution	1280 x 1024	1280 x 1024	1024 x 768
Max. Colors	16.7M	16.7M	16.7M
Dot Size (mm)	0.294 x 0.294	0.297 x 0.297	0.297 x 0.297
Luminance (cd/m²)	400 (TYP)	300 (TYP)	400 (TYP)

Viewing Angle	140°(H)	150°(H)	170°(H)
	135°(V)	130°(V)	170°(V)
Operating Temperature	0°C~40°C (32°F~104°F)	0°C~ 40°C (32°F~104°F)	0°C~ 40°C (32°F~104°F)
Brightness Control	Yes	Yes	Yes
Back Light MTBF	50,000 Hrs	40,000 Hrs	50,000 Hrs

Note:

All AAEON'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. AAEON 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

Architecture	Close-frame
Front Bezel	Plastic bezel with resistive touch screen
Color	Blue-white (Sky series) and Green-white (Garden series)
Mounting / Holder	VESA 75/100mm, ONYX-215 supports VESA 75 only
Construction	3mm ABS + PC TYPE Plastic housing
Dimension (W x H x D)	ONYX-219/217: 460 x 385 x 97 mm (18.1"x97.8"x3.8") ONYX-215: 398 x 330 x 92.5 mm (15.7"x13"x3.6")
Carton Dimension	ONYX-219/217: 605x 230x 610mm (23.8"x 9.1"x 24") ONYX-215: 510x 213x465mm (20.1"x 8.4"x 18.3")
Net Weight	ONYX-219: 7.6 kg ONYX-217: 6.16 kg ONYX-215: 5.04 kg
Gross Weight	ONYX-219: 10.6 kg ONYX-217: 9.2 kg ONYX-215: 6.5 kg
Packing Filler	PE

Power Supply Specifications

Power	Requirement DC 12V <ul style="list-style-type: none"> ● AC adapter (Input power rating) 90~264VAC, (115VAC @ 1.35A, 230VAC @ 0.7A), 47~63Hz ● DC output 12V @ 3.46A
MTBF	100,000 hrs operation at 25°C

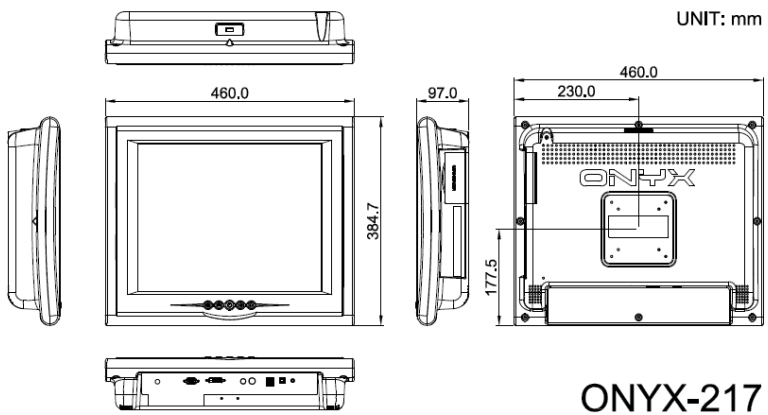
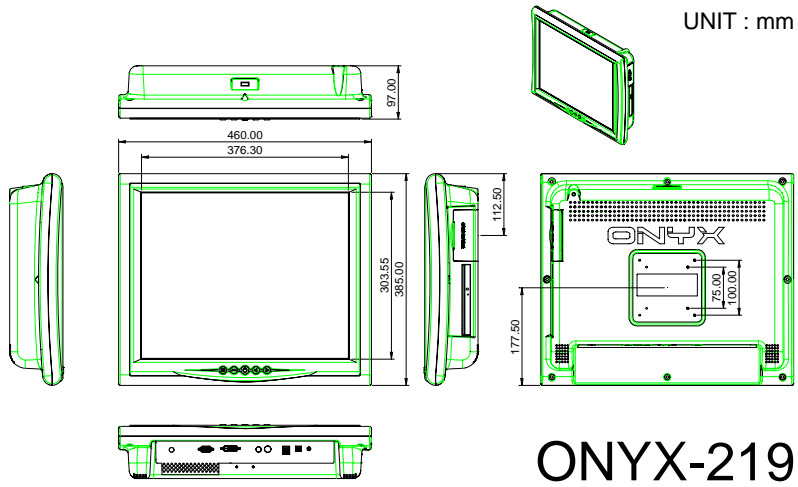
Environmental Specifications

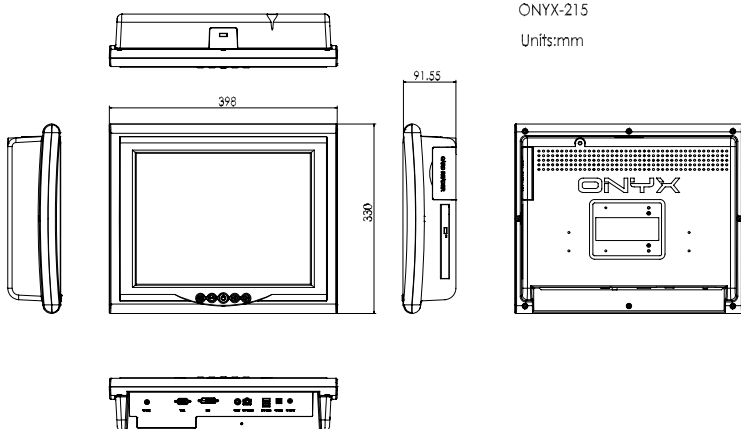
Operating Temperature	0°C to 40°C (32°F ~104°F)
Storage Temperature	-20°C to 60°C (-4°F ~140°F)
Storage Humidity	5% to 95% @ 40°C, non-condensing
Vibration	1G / 5 ~ 500Hz (Random) / operation
Shock	15G peak acceleration (11 msec. duration) / operation
Drop	76cm (1 Corner, 3 Edge, 6 Surface)
EMI / Safety	CE / FCC Class B/UL 60601-1/EN 60601-1
IP	Front bezel meets IP-65 standard
Power Consumption	40W

TouchScreen (Optional)

Type	8-wire, Analog Resistive
Interface	USB interface
Resolution	2048 x 2048
Light Transmission	> 75%
Life Time	1 million activations

1.4 Dimension





Chapter

2

**Hardware
Installation**

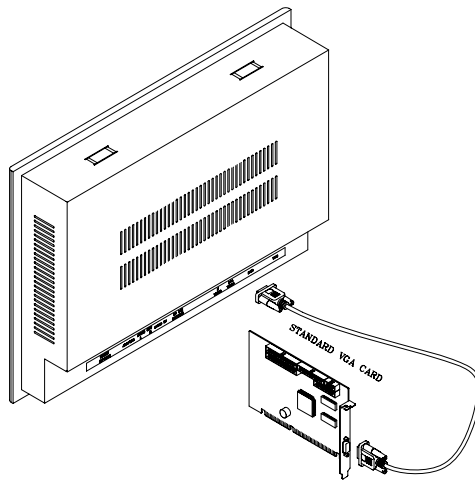
2.1 Before Unpacking

It is very important to locate the Smart Medical Terminal in a suitable environment.

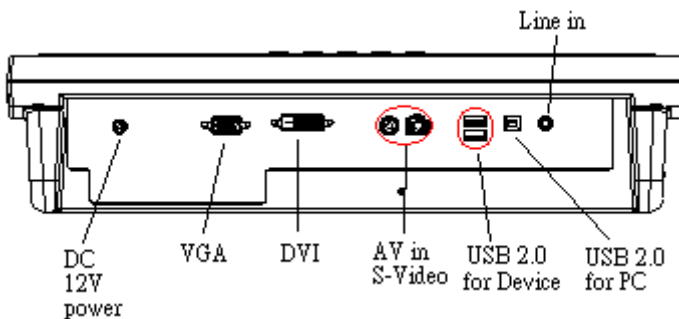
- The surface for placing the Smart Medical Terminal should be stable and level.
- Make sure the place has good ventilation, and out of direct sunlight; away from sources of excessive dust, dirt, heat, water, moisture and vibration.
- Convenience for connecting the Smart Medical Terminal to the related facilities should be well considered too.

2.2 Connecting to the computer

- Turn off the computer and the Smart Medical Terminal before the connection
- Use the Monitor-to-PC VGA cable or DVI cable to connect the Smart Medical Terminal to your computer. The cable heads are the same on either side.
- Fasten the connections securely.



I/O ports



Chapter


3

On Screen Display Control

3.1 On Screen Display Controller

The LCD monitor is very easy and simple to operate. There are five controls below on the rear panel. You can see their respective indicators.

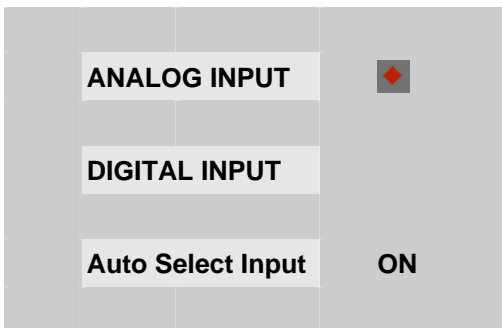
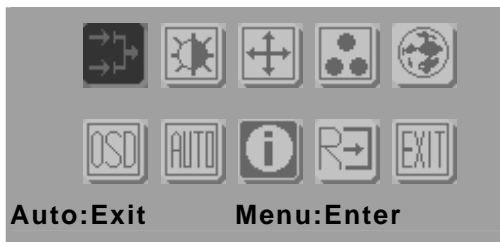
3.2 Key selection

Button	Description
Power 	➤ Turn the monitor power ON or OFF
Menu	➤ Activate the OSD menu ➤ <i>Enter/confirm the selected option</i>
Down/Right/Increase	➤ Activate the volume control ➤ Move the selector to the next option ➤ Increase the gauge value of the selected option
UP/Left/Decrease	➤ Active volume control ➤ Move the selector to the previous option ➤ Decrease the gauge value of the selected option
Auto/Exit	➤ Automatically adjust the clock, phase, H-position and V-position ➤ Value to the most optimal settings ➤ Use full screen when enabling this function ➤ Exit menu

3.3 LED Function

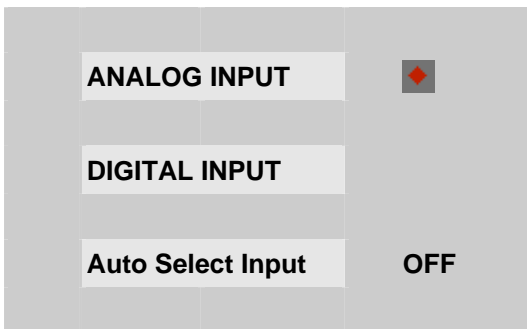
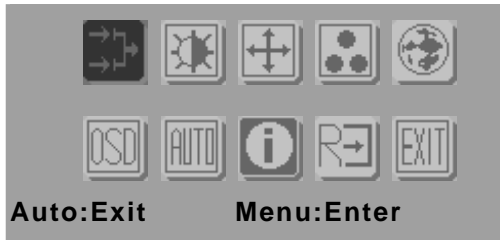
DPMS ON	Green
DPMS STANDBY	Green flicker
DPMS SUSPEND	Red
DPMS OFF	Off

3.4 OSD Main Menu : Push the MENU key



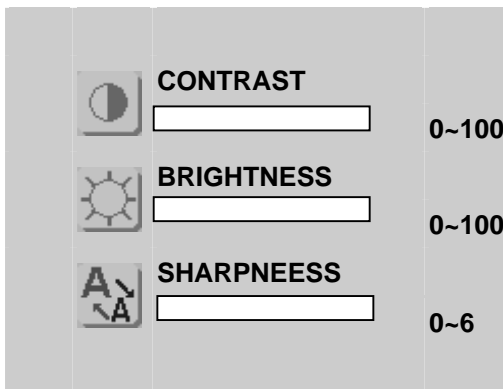
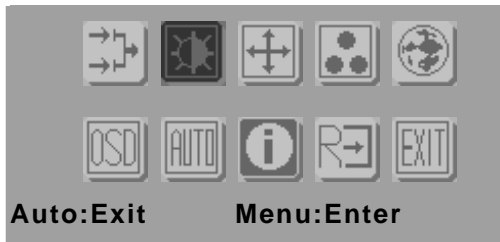
Key	Function
Power	LCD monitor power on/off
Menu	Enter to the selected option
Right/ Increase	Move the selector to the next option
Left /Decrease	Move the selector to the previous option
Auto/ Exit	Turn off OSD menu
Input selection	Change input source

3.5 Input source selection



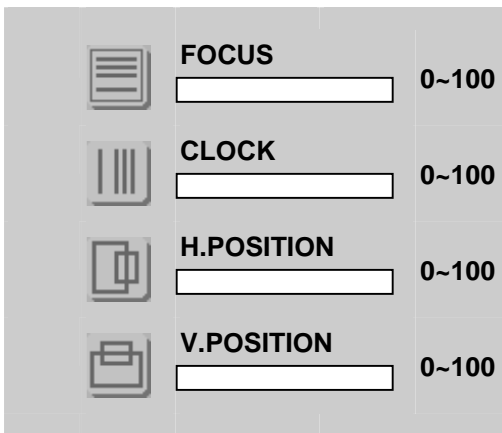
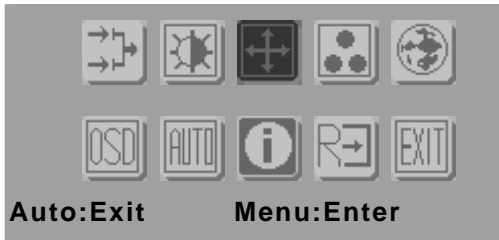
Key	Function (1)	Function (2)
Menu	Enter current sub-menu	No function
Right/ Increase	Go to next sub-menu	Increase the gauge value
Left/ Decrease	Back to previous sub-menu	Decrease the gauge value
Auto/ Exit	Return to main menu	Return to sub-menu

3.6 Contrast/Brightness – Submenu



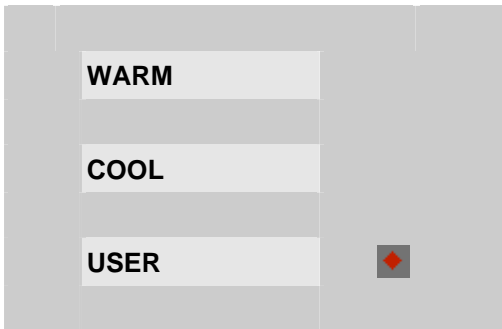
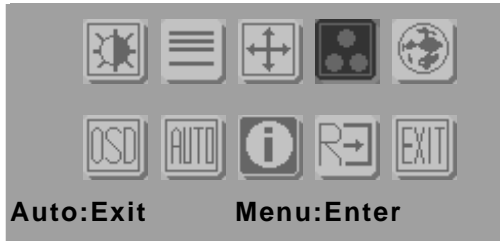
Key	Function (1)	Function (2)
Power	LCD monitor power on/off	LCD monitor power on/off
Menu	Enter current sub-menu	No function
Right/Down/Increase	Go to next sub-menu	Increase the gauge value
Left/Up/Decrease	Back to previous sub-menu	Decrease the gauge value
Auto/Exit	Return main menu	Return sub-menu

3.7 Geometry Menu



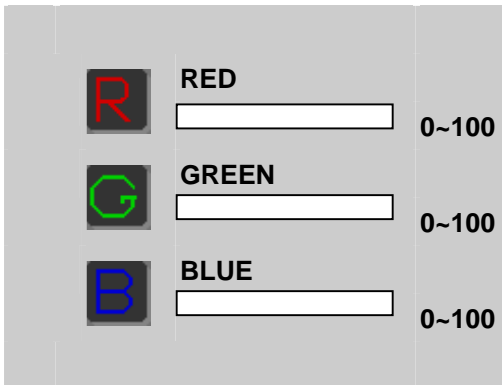
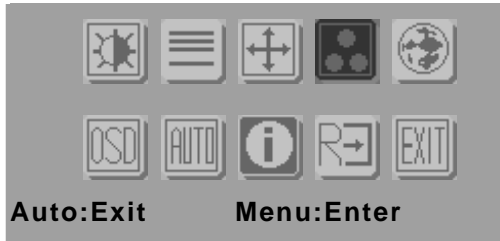
Key	Function (1)	Function (2)
Power	LCD monitor power on/off	LCD monitor power on/off
Menu	Enter current sub-menu	No function
Right/Down/Increase	Go to next sub-menu	Increase the gauge value
Left/Up/Decrease	Back to previous sub-menu	Decrease the gauge value
Auto/Exit	Return to main menu	Return to sub-menu

3.8 Color Temperature – Submenu



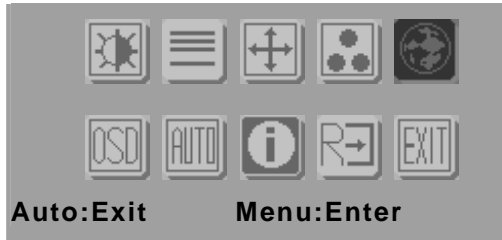
Key	Function
Power	LCD monitor power on/off
Menu	Set current sub-menu
Right/Down/Increase	Go to next sub-menu
Left/Up/Decrease	Back to previous sub-menu
Auto/Exit	Return to main menu

3.9 RGB Color-Submenu



Key	Function (1)	Function (2)
Power	LCD monitor power on/off	LCD monitor power on/off
Menu	Enter current sub-menu	No function
Right/Down/Increase	Go to next sub-menu	Increase the gauge value
Left/Up/Decrease	Back to previous sub-menu	Decrease the gauge value
Auto/Exit	Return to main menu	Return to sub-menu

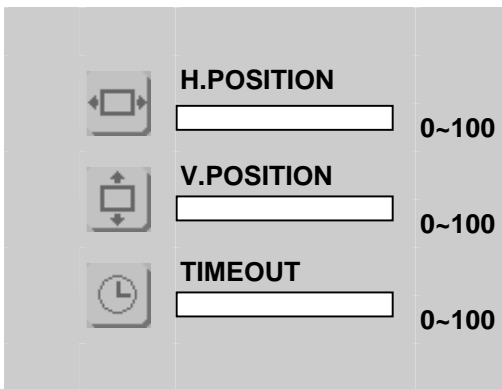
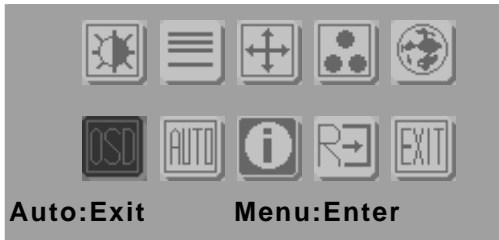
3.10 Language - Submenu



ENGLISH	繁體中文
DEUTSCH	FRANCAIS
ESPANOL	ITALIANO
簡體中文	日本語

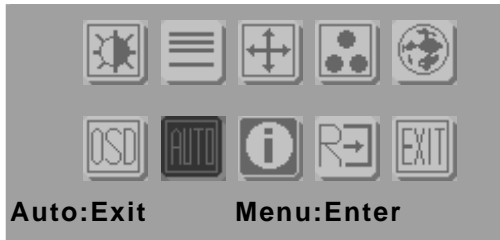
Key	Function
Power	LCD monitor power on/off
Menu	Set current sub-menu
Right/Down/Increase	Go to next sub-menu
Left/Up/Decrease	Back to previous sub-menu
Auto/Exit	Return to main menu

3.11 OSD Manager - Submenu



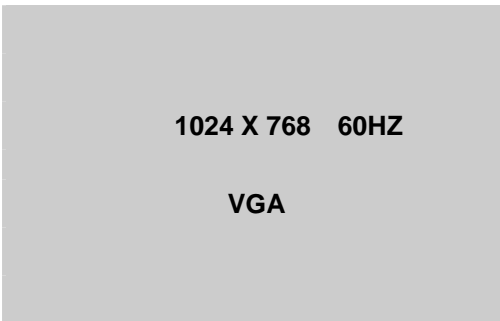
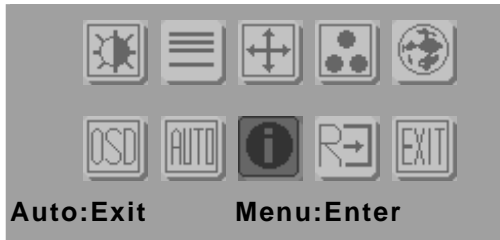
Key	Function (1)	Function (2)
Power	LCD monitor power on/off	LCD monitor power on/off
Menu	Enter current sub-menu	No function
Right/Down/Increase	Go to next sub-menu	Increase the gauge value
Left/Up/Decrease	Back to previous sub-menu	Decrease the gauge value
Auto/Exit	Return to main menu	Return to sub-menu

3.12 Auto Config - Submenu



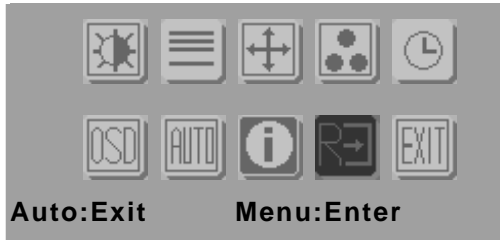
Key	Function
Power	LCD monitor power on/off
Menu	Set current sub-menu
Right/Down/Increase	Go to next menu
Left/Up/Decrease	Back to previous menu
Auto/Exit	Turn off OSD menu

3.13 Mode Information - Submenu



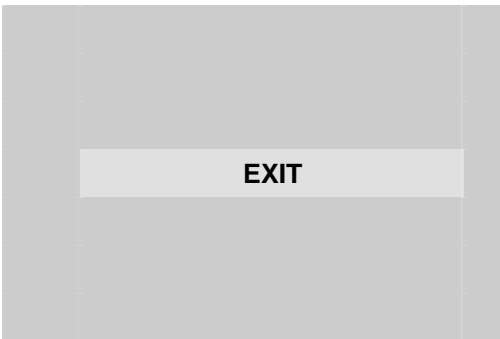
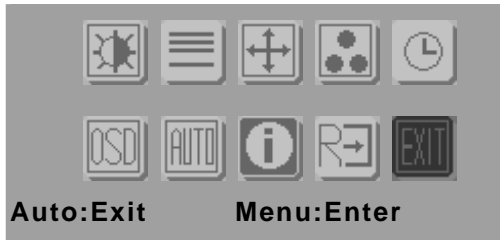
Key	Function
Power	LCD monitor power on/off
Menu	No function
Right/Down/Increase	Go to next menu
Left/Up/Decrease	Back to previous menu
Auto/Exit	Turn off OSD menu

3.14 Memory Recall - Submenu



Key	Function
Power	LCD monitor power on/off
Menu	Set current sub-menu
Right/Down/Increase	Go to next menu
Left/Up/Decrease	Back to previous menu
Auto/Exit	Turn off OSD menu

3.15 Exit menu - Submenu



Key	Function
Power	LCD monitor power on/off
Menu	Set current sub-menu
Right/Down/Increase	Go to next menu
Left/Up/Decrease	Back to previous menu
Auto/Exit	Turn off OSD menu

Chapter

4

**Drivers
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:

4.1 Card Reader Driver Installation

1. Click on the ***Card_Reader 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

4.2 Smart Card Driver Installation

4. Click on the ***Smart_Card driver*** folder and then double click on the ***setup.exe***
5. Follow the instructions that the window shows
6. The system will help you install the driver automatically

4.3 Touch Screen Driver Installation

1. Click on the ***Touch*** folder
2. Double click on ****.exe*** file and follow the instructions that the window shows
3. The system will help you install the driver automatically

4.4 Troubleshooting

- **Problem: Unclear or Unsteady Display**

Actions:

1. Activate the **AUTO** button. You might need to repeat to find balanced values for a good quality.
2. If you still have problem to fine-tune the image, call your local technical support for assistance.

- **Problem: No Display is shown on the LCD monitor.**

Actions:

1. Make sure the LCD monitor is powered on by checking if the Power LED is lit. Check if all the connections are secure and the system is running correctly.
2. If the power LED lights up green, but there is still nothing displayed; connect your PC with another external monitor. If your PC works properly with that monitor, then it is possible that the VGA card timing of the system may be outside the LCD monitor's synchronous range. You may need a qualified technician for help.

- **Problem: "No signal" is shown on the display after you connect to the system.**

Action:

1. This could be a mistake you made in the OSD menu while choosing the INPUT SOURCE: VGA or DVI.

4.5 Applicable Graphic Table

The microprocessor measures the, H-sync, V-sync and polarity for RGB inputs, and uses this timing information to control all of the display operation to get the proper image on a screen. This board can detect all VESA standard graphic modes shown on the table below and provide more clear and stable image on a screen.

Resolution			H-Sync (KHz)	V-Sync (Hz)	HP/VP
VESA	640x480	60Hz	31.469	59.940	N/N
VESA	640x480	72Hz	37.861	72.809	N/N
VESA	640x480	75Hz	37.500	75.000	N/N
VESA	800x600	56Hz	35.156	56.250	P/P
VESA	800x600	60Hz	37.879	60.317	P/P
VESA	800x600	72Hz	48.077	72.188	P/P
VESA	800x600	75Hz	46.875	75.000	P/P
VESA	1024x768	60Hz	48.363	60.004	N/N
VESA	1024x768	70Hz	56.476	70.069	N/N
VESA	1024x768	75Hz	60.603	75.029	P/P
VESA	1280x960	60Hz	60.000	60.000	P/P
VESA	1280x1024	60Hz	63.981	60.020	P/P
VESA	1280x1024	75Hz	79.976	75.025	P/P
MAC	832x624	75Hz	49.725	74.550	N/N
MAC	1024x768	60Hz	48.780	60.001	N/N
MAC	1024x768	75Hz	60.241	74.927	N/N
IBM DOS	640x350	70Hz	31.469	70.086	P/N
IBM DOS	720x400	70Hz	31.469	70.087	N/P

Appendix

A

Miscellanea

A.1 General Cleaning Tips

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.

A.2 Cleaning tools

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

A.3 Scrap Computer Recycling

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.aaeon.com/?TabIndex=Contact&TabID=Distributors>

Note:

Follow the national requirement to dispose unit