

## TFT LCD MONITOR

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### USER MANUAL

UHD Series(4K/2K) Resloution

L156UHD

L238UHD

L270UHD

L320UHD

L400UHD



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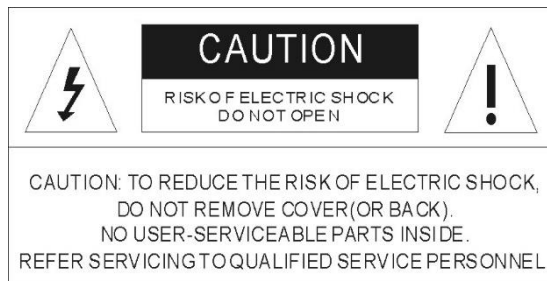
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## Warning:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

## **Caution:**



## **Explanation of Graphical Symbols**



**Danger:** This symbol is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to a person.



**Warning:** This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

## **Precautions**

### **Safety-----**

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat built-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.

### **Safety Precautions**

#### **Federal Communications Commission (FCC) Statement**

This Equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

- You are cautioned that changes or modifications not expressly approved by that party responsible for compliance could void your authority to operate the equipment.

### **Installation-----**

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust or mechanical vibration.

The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.

### **Cleaning-----**

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received including interference that may cause undesired

### **About this user manual**

This manual aims at assisting the user on how to operate the monitors described in this manual.

This manual is subject to rigid quality control. However, no guarantee can be given that mistakes are not present. We reserve the right to make changes to the manual without prior notice.

Before operating the appliance, please read this manual carefully and retain it for further reference. Verify that all appliance items are included in the delivery. Should items be missing, do not operate the appliance and contact your local dealer.


Never attempt to repair the appliance yourself. This should only be done by qualified service personnel.

Improper handling of the appliance will invalidate the warranty.

### **Items included in the delivery**

- 1 x LCD monitor
- 1 x Power supply unit 12 V DC.[Except for the 32",40"]
- 1 x Power cord UK
- 1 x VGA cable Optional
- 1 x IR remote control
- 1 x User manual

## 1. IR remote control

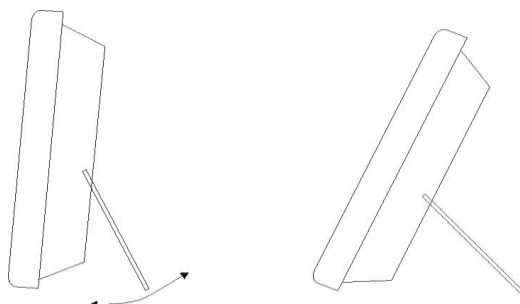
- (1). **Power:**  
Press this button to turn the monitor on/off.
- (2). **Zoom:**  
Press this button to toggle between the different picture formats:
- (3).  **Mute:**  
Press this button to disable the sound.  
Press this button again to turn the sound on again.
- (4). **PC/HD, AV1/AV2:**  
You can select the appropriate signal source directly (AV1/AV2 =DP).
- (5). **Item:**  
Hot key for OSD adjustments of Volume, Contrast, Brightness, Sharpness, Saturation, Hue, and R-Gain G-Gain B-Gain .
- (6). **Source:**  
To switch the video inputs (in pip/pbp mode to select the window1 or window2 source), please use the IR remote control included in the delivery  
This button is also used as „Enter“ and „Select“ function in the OSD menu.  
and to confirm your selected settings in the OSD menu.
- (7). **Menu/OK:**  
Press this button to call-up the OSD menu.  
This button is also used as “Exit“.  
Note: The menu button is also used to return to the previous menu.
- (8). **Select ▲/▼:**  
Directional buttons up/down.
- (9). **PIP:**  
Press this button to select the picture-in-picture function.PIP Mode/PBP Mode1.
- (10). **Swap:**  
When in PIP/PBP mode, press the swap button to switch the main picture and the sub picture.
- (11). **Position:**  
When in PIP mode, press the position button to define the position of the sub-picture:  
Either in one of the four screen corners or centered.
- (12). **Display:**  
Press this button to call-up screen source.



## 2 LCD monitor Mounting Guide

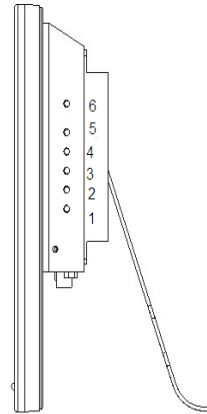
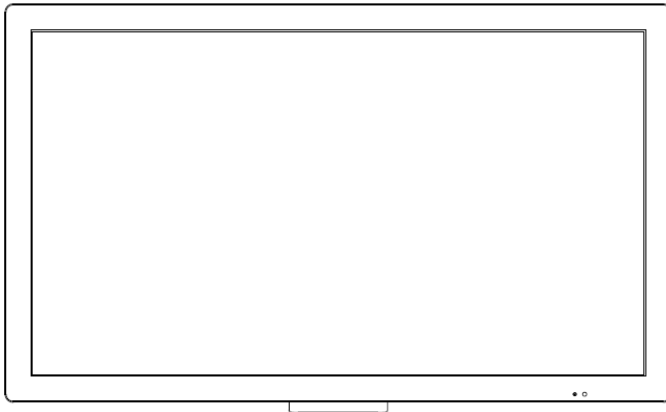
### **A. Desktop**

Adjust the viewing angle of LCD to fit most comfortable monitoring status.





### **3 Monitor controls**



#### **(1). Power**

Turn the monitor on/off.

LED: Green Monitor on

LED: Red Standby mode (no input signal)

#### **(2./3). Adjust Up / Down ▲/▼**

Increase or decrease the values in the OSD menu:

Up: Increase the values.

Down: Decrease the values.

#### **(4). Item:**

Hot key for OSD adjustments of volume, contrast, brightness, sharpness, and Red, Green, Blue.

#### **5). Menu:**

Press this button to call-up the OSD menu.

This button is also used as "Exit".

#### **(6). Source:**

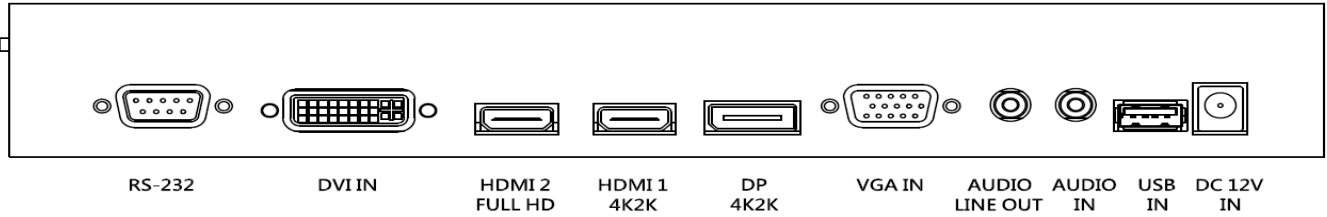
To switch the video inputs, (in pip/psp mode to select the window1 or window2 source),

This button is also used as „Enter“ and „Select function in the OSD menu.

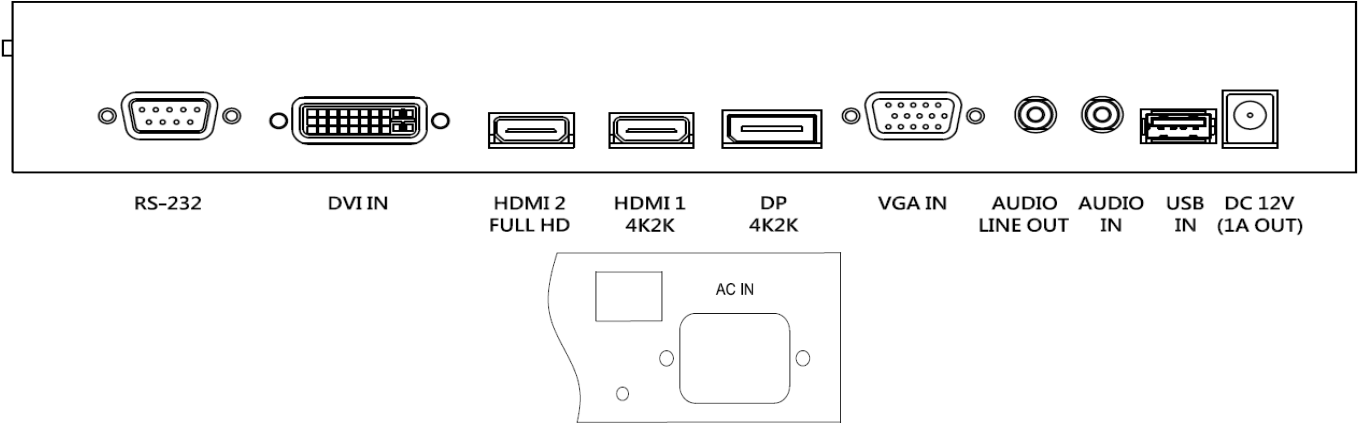
and to confirm your selected settings in the OSD menu.

## 4. Connections

15.6"/23.8"/27"



32"/40"



### NOTE :

Connections of Audio

	Audio IN
VGA	V
DVI	V

## 5. Monitor settings via OSD menu

Various monitor settings can be made using the OSD menu (On Screen Display).

Press the Menu/OK button to call-up the OSD main menu. Here you can make adjustments to the following items:

- Input Source
- Brightness/Contrast
- Color Settings
  - Picture Quality Settings
  - Display Settings
- Audio Settings
- Multi-Window Settings
- Other Settings

Use the ▲/▼ buttons to toggle between the different items.

Press the Source button to select the appropriate item.

### 5.1 Input Source

Press Menu button than press Source button, Use the ▲ ▼ buttons to select input, and press Source button to confirm

### 5.2 Brightness /Contrast

Press Menu button than Use the ▲ ▼ buttons to select adjusts item, and press Source button to confirm.

Then use the ▲ ▼ buttons to increase/decrease the values, and press Source button to confirm. Press the Menu button to return to the previous menu item.

Item	Description
Brightness	Use the ▲ ▼ buttons to increase/decrease the screen brightness.
Contrast	Use the ▲ ▼ buttons to increase/decrease the screen contrast.



### **5.3 Color settings**

Press Menu button than Use the ▲ ▼ buttons to select adjusts item, and press Source button to confirm.

Then use the ▲ ▼ buttons to increase/decrease the values, and press Source button to confirm. Press the Menu button to return to the previous menu item.

<b>Item</b>	<b>Description</b>
By pass	Use the ▲ ▼ buttons to on/off the function.
Gamma	Use the ▲ ▼ buttons to select the 1.8/2.0/2.2/2.4/2.6
Color Temperature	Use the ▲ ▼ buttons to select the User,9300K,6500K,5700K
Gain	Use the ▲ ▼ buttons to adjust the Red, Green, Blue.
Global Hue/Saturation	Use the ▲ ▼ buttons to adjust the Hue & Saturation value.

### **5.4 Picture Quality Settings**

Press Menu button than Use the ▲ ▼ buttons to select adjusts item, and press Source button to confirm.

Then use the ▲ ▼ buttons to increase/decrease the values, and press Source button to confirm. Press the Menu button to return to the previous menu item.

<b>Item</b>	<b>Description</b>
By pass	Use the ▲ ▼ buttons to on/off the function.
Sharpness	Use the ▲ ▼ buttons to adjust the screen sharpness.
Dynamic Noise Reduction	Use the ▲ ▼ buttons to select the: off, Low, Middle, High.

### **5.5 Display Settings**

Press Menu button than Use the ▲ ▼ buttons to select adjusts item, and press Source button to confirm.

Then use the ▲ ▼ buttons to increase/decrease the values, and press Source button to confirm. Press the Menu button to return to the previous menu item.

<b>Item</b>	<b>Description</b>
Aspect Ratio	Use the ▲ ▼ buttons to select the Full screen, Auto,4:3,5:4,16:9,1:1
Horizontal Position	Use the ▲ ▼ buttons to move the screen image left or right
Vertical Position	Use the ▲ ▼ buttons to move the screen image up and down.
Pixel Clock	Use the ▲ ▼ buttons to Adjust image distortion appearing as vertical or "noise" on the screen.
Phase	Use the ▲ ▼ buttons to Adjust image distortion appearing as horizontal or "noise" on the screen.
Auto Adjust	Use the source buttons to Adjust the best image.

### **5.6 Audio Settings**

Press Menu button than Use the ▲ ▼ buttons to select adjusts item, and press Source button to confirm.

Then use the ▲ ▼ buttons to increase/decrease the values, and press Source button to confirm. Press the Menu button to return to the previous menu item.

<b>Item</b>	<b>Description</b>
Power Save Audio	Use the ▲ ▼ buttons to on/off the mute function.
Volume	Use the ▲ ▼ buttons to increase/decrease the volume.

**5.7 Multi-Window Settings**

Press Menu button than Use the ▲ ▼ buttons to select adjusts item, and press Source button to confirm.

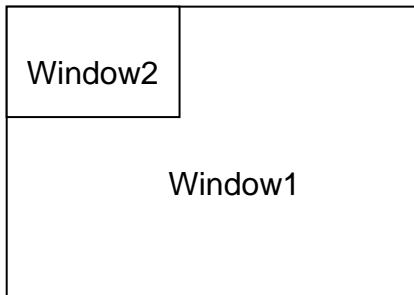
Then use the ▲ ▼ buttons to increase/decrease the values, and press Source button to confirm.

Press the Menu button to return to the previous menu item.

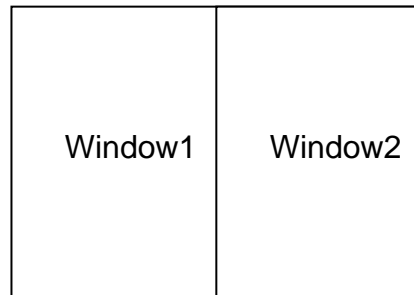
Item	Description
Multi-Window Modes	Use the ▲ ▼ buttons to select the : off, PIP mode, PBP mode1.
Window Select	Use the ▲ ▼ buttons to select the : Window1, Window2.
PIP Size	Use the ▲ ▼ buttons to select the :Small, Medium, Large.

\*In PIP/PBP mode you can use “source” button to select the window1 or window2 source.

PIP MODE



PBP MODE1



**5.8 Other Settings**

Press Menu button than Use the ▲ ▼ buttons to select adjusts item, and press Source button to confirm.

Then use the ▲ ▼ buttons to increase/decrease the values, and press Source button to confirm.

Press the Menu button to return to the previous menu item.

Item	Description
Language	Use the ▲ ▼ buttons to select the Language.
Menu Transparency	Use the ▲ ▼ buttons to Adjust the OSD menu display halftone.
DP Config.	Use the ▲ ▼ buttons to select the DP1.1/DP1.2
Factory Reset	Press the source button to restore the factory settings.

**VGA / DVI-D/HDMI PC timing:**

Mode	Resolution
1	800 x 600 @ 60
2	1024 x 768 @ 60
3	1280 x 720 @ 60
4	1280 x 1024 @ 60
5	1680 x1050 @60
6	1920 x 1080@ 60

**HDMI 2.0 / DP1.2 PC timing:**

Mode	Resolution
1	800 x 600 @ 60
2	1024 x 768 @ 60
3	1280 x 720 @ 60
4	1280 x 1024 @ 60
5	1680 x1050 @60
6	1920 x 1080@ 60
7	2560x1440@60
8	3840x2160@60

## 6. Special features

- . Realistic UHD Picture Quality.
- . Experience More than 1 Billion Colors.
- . Advanced SoC solution processing IC for the state-of-the-art UD (3840x2160) display LCD monitors
- . Supports 10-bit data processing.
- . Supports UCE (Ultra-Clear-Engine).
- . Supports windows PIP/PBP.
- . Auto-tuning function including phasing, positioning, offset, gain, and jitter detection.
- . Build-in 2W speaker.
- . Support IR remote controller.
- . VESA standard bracket 75/100mm

## 7. Technical specifications

Model	L156UHD
LCD panel	15.6"
Active area (mm)	344.448x193.752
Picture format	16 : 9
Max. resolution	3840x2160
Pixel pitch (mm)	0.0897x0.0897
Colours	16.7M colors
Brightness	300 cd/m <sup>2</sup> [LED]
Contrast	800:1
Response time (Tr/Tf)	25ms
View angle (U/D/L/R)	85/85/85/85
USB input	1x USB A type
HDMI1(HDMI 2.0) input	1x (A Type)_3840x2160(max) (Depends on signal source & HDMI cable ,both must be ready for HDMI 2.0)
HDMI 2 input	1x (A Type)_1920x1080(max)
Display port input	1x (DP)_3840x2160(max)
PC input	1x VGA input (D-Sub 15 pin)_1920x1080(max) 1x DVI-D input_1920x1080(max) 1x PC Audio input (3.5ψphone jack) 1x RS232 input (D-SUB 9pin)DICOM Calibration System(option)
Audio Output	1x Earphone output (3.5ψphone jack)
Speaker	2x built-in speaker (2 watt)
Picture-in-Picture (PIP)	Yes
OSD setting	Yes
Power input	AC 100-240V 50/60Hz, Adapter DC 12V/5A
Power consumption	Approx. 13 watt
Dimensions (WxHxD) mm	371.88x235.57x69.5
Weight	2.5kg
Operating temperature	0° to 50° C

Subject to technical changes without prior notice. Error excepted.

Model	L238UHD
LCD panel	23.8"
Active area (mm)	527.04x296.46
Picture format	16 : 9
Max. resolution	3840x2160
Pixel pitch (mm)	0.13725x0.13725
Colours	1.07G colours
Brightness	300 cd/m <sup>2</sup> [LED]
Contrast	1000:1
Response time (Tr/Tf)	9.5ms
View angle (U/D/L/R)	89/89/89/89
USB input	1x USB A type
HDMI1(HDMI 2.0) input	1x (A Type)_3840x2160(max) (Depends on signal source & HDMI cable ,both must be ready for HDMI 2.0)
HDMI 2 input	1x (A Type)_1920x1080(max)
Display port input	1x (DP)_3840x2160(max)
PC input	1x VGA input (D-Sub 15 pin)_1920x1080(max) 1x DVI-D input_1920x1080(max) 1x PC Audio input (3.5ψphone jack) 1x RS232 input (D-SUB 9pin)DICOM Calibration System(option)
Audio Output	1x Earphone output (3.5ψphone jack)
Speaker	2x built-in speaker (2 watt)
Picture-in-Picture (PIP)	Yes
OSD setting	Yes
Power input	AC 100-240V 50/60Hz, Adapter DC 12V/5A
Power consumption	Approx. 32 watt
Dimensions (WxHxD) mm	555.6x341.0x73.5
Weight	5.8 kg
Operating temperature	0° to 50° C

Subject to technical changes without prior notice. Error excepted.

Model	L270UHD	L270UHD
LCD panel	27"	
Active area (mm)	596.74x335.66	
Picture format	16 : 9	
Max. resolution	3840x2160	
Pixel pitch (mm)	0.1554x0.1554	
Colours	1.07G colours	
Brightness	250 cd/m <sup>2</sup> [LED]	350 cd/m <sup>2</sup> [LED]
Contrast	1000:1	
Response time (Tr/Tf)	14ms (G to G)	
View angle (U/D/L/R)	89/89/89/89	
USB input	1x USB A type	
HDMI1(HDMI 2.0) input	1x (A Type)_3840x2160(max) (Depends on signal source & HDMI cable ,both must be ready for HDMI 2.0)	
HDMI 2 input	1x (A Type)_1920x1080(max)	
Display port input	1x (DP)_3840x2160(max)	
PC input	1x VGA input (D-Sub 15 pin)_1920x1080(max) 1x DVI-D input_1920x1080(max) 1x PC Audio input (3.5ψphone jack) 1x RS232 input (D-SUB 9pin)DICOM Calibration System(option)	
Audio Output	1x Earphone output (3.5ψphone jack)	
Speaker	2x built-in speaker (2 watt)	
Picture-in-Picture (PIP)	Yes	
OSD setting	Yes	
Power input	AC 100-240V 50/60Hz, Adapter DC 12V/5A	
Power consumption	Approx. 33 watt	Approx. 45 watt
Dimensions (WxHxD) mm	632.4x380.2x72	635x385.2x76
Weight	7 kg	7.3 kg
Operating temperature	0° to 50° C	

Subject to technical changes without prior notice. Error excepted.

Model	L320UHD
LCD panel	31.5"
Active area (mm)	698.4x392.85
Picture format	16 : 9
Max. resolution	3840x2160
Pixel pitch (mm)	0.181x0.181
Colours	1.073G colours
Brightness	400 cd/m <sup>2</sup> [LED]
Contrast	3000:1
Response time	9.5ms (G to G)
View angle (U/D/L/R)	89/89/89/89
USB input	1x USB A type
HDMI1(HDMI 2.0) input	1x (A Type)_3840x2160(max) (Depends on signal source & HDMI cable ,both must be ready for HDMI 2.0)
HDMI 2 input	1x (A Type)_1920x1080(max)
Display port input	1x (DP)_3840x2160(max)
PC input	1x VGA input (D-Sub 15 pin)_1920x1080(max) 1x DVI-D input_1920x1080(max) 1x PC Audio input (3.5ψphone jack) 1x RS232 input (D-SUB 9pin)DICOM Calibration System(option)
Audio Output	1x Earphone output (3.5ψphone jack)
Speaker	2x built-in speaker (2 watt)
Picture-in-Picture (PIP)	Yes
OSD setting	Yes
Power input	AC 100-240V 50/60Hz
Power consumption	Approx. 70 watt
Dimensions (WxHxD) mm	730.0x433.35x74.5
Weight	10 kg
Operating temperature	0° to 50° C

Model	L400UHD
LCD panel	40"
Active area (mm)	878.112x485.352
Picture format	16 : 9
Max. resolution	3840x2160
Pixel pitch (mm)	0.2247x0.2247
Colours	1.07G colours
Brightness	350 cd/m <sup>2</sup> [LED]
Contrast	5000:1
Response time	8.5ms (G to G)
View angle (U/D/L/R)	89/89/89/89
USB input	1x USB A type
HDMI1(HDMI 2.0) input	1x (A Type)_3840x2160(max) (Depends on signal source & HDMI cable ,both must be ready for HDMI 2.0)
HDMI 2 input	1x (A Type)_1920x1080(max)
Display port input	1x (DP)_3840x2160(max)
PC input	1x VGA input (D-Sub 15 pin)_1920x1080(max) 1x DVI-D input_1920x1080(max) 1x PC Audio input (3.5ψphone jack) 1x RS232 input (D-SUB 9pin)DICOM Calibration System(option)
Audio Output	1x Earphone output (3.5ψphone jack)
Speaker	2x built-in speaker (7 watt)
Picture-in-Picture (PIP)	Yes
OSD setting	Yes
Power input	AC 100-240V 50/60Hz
Power consumption	Approx. 62 watt
Dimensions (WxHxD) mm	901.92x543.55x75.02
Weight	16.5kg
Operating temperature	0° to 50° C

Subject to technical changes without prior notice. Error excepted.

## **Appendixes**

### **Troubleshooting**

The tables provided below include some problems that the user may encounter while using the display and the corresponding solutions. Please refer to the contents of this section prior to contacting service personnel.

Problem	Possible Causes	Solutions
No picture	<ol style="list-style-type: none"><li>1. Is the power cable connected to the unit?</li><li>2. Is the unit turned on?</li><li>3. Is the signal cable connected to the unit?</li><li>4. Is the unit in power saving mode?</li></ol>	<ol style="list-style-type: none"><li>1. Make sure the power cable has been properly connected to the unit.</li><li>2. Turn on the unit.</li><li>3. Make sure the signal cable has been properly connected to the unit.</li><li>4. Press any key on computer keyboard.</li></ol>
Strange colour	<ol style="list-style-type: none"><li>1. Is the signal cable connected to the unit?</li></ol>	<ol style="list-style-type: none"><li>1. Make sure the signal cable has been properly connected to the unit.</li></ol>
Picture distortion	<ol style="list-style-type: none"><li>1. Is the signal cable connected to the unit?</li><li>2. Is the video input signal within the unit's specified frequency range?</li></ol>	<ol style="list-style-type: none"><li>1. Make sure the signal cable has been properly connected to the unit.</li><li>2. Make sure the input signal is within the unit's specified frequency range.</li></ol>
Picture is too dim	<ol style="list-style-type: none"><li>1. Have the unit's brightness and contrast settings been set to the lowest level?</li></ol>	<ol style="list-style-type: none"><li>1. Adjust brightness and contrast</li></ol>
Only sound but no picture	<ol style="list-style-type: none"><li>1. Is the connection of the input signal correct?</li></ol>	<ol style="list-style-type: none"><li>1. Check connection of input signal.</li><li>2. Make sure the signal cable has been properly connected.</li></ol>
Only picture but no sound	<ol style="list-style-type: none"><li>1. Is the signal cable connected to the unit?</li><li>2. Has the volume been set to the min level?</li><li>3. Is the audio cable connected to the unit?</li></ol>	<ol style="list-style-type: none"><li>1. Make sure the signal cable has been properly connected to the unit.</li><li>2. Adjust the volume to an appropriate setting.</li><li>3. Make sure the audio cable has been properly connected to the unit.</li></ol>

Please contact the customer service centre of your local dealer if you have any questions regarding the unit after reading the information provided above.