User Manual

21.5" (54.6cm) LCD Monitor Full HD, 1920x1080, LED, 3D-Comb Filter, HDMI, VGA

VMC-22LED

1. SAFETY INSTRUCTION

※ Follow this safety instruction to use the monitor properly and prevent the damage.

※ This safety instruction has "Warning" & "Caution" as below

Warning - If the user does not follow this instruction,
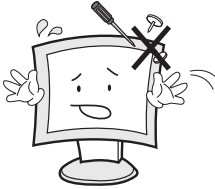it may cause the serious damage to the user.

Caution - If the user does not follow this instruction, it may cause the slight
damage to the user or cause some damages to the monitor.

※ Keep this user's guide book for later use.

Warning

Never remove the back cover and touch the inside of the monitor. If you need a service, please contact the service center.
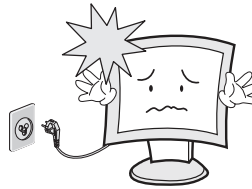

Keep away the monitor from the direct sunlight and a heating appliance.

Never put objects of any kind into this product as they may result in a risk of fire or electric shock.

Connect the power cord to the wall outlet tightly. If the power cord or plug are defective and the wall outlet is not tight, please do not use them.
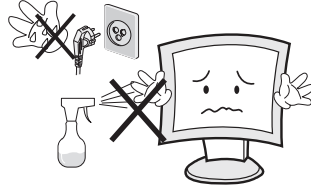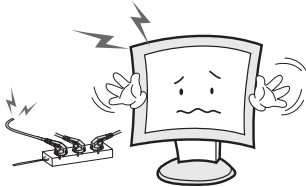
Warning

Do not install this monitor on the outside and near water. It may cause damage to the product, electric shock and fire.
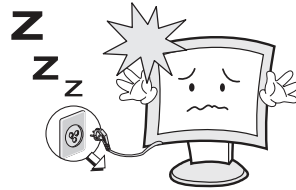
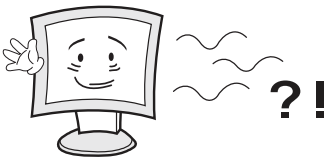For cleaning do not use liquid cleaners. Never touch the power plug with wet-hands.

When lightning and thundering, unplug the monitor from the wall outlet and never touch it.

Unplug this product from the wall outlet, when it does not operate for a long time.

When smoking and noising from the monitor, unplug the product from the wall outlet and contact a service center.

WARNING : How to fix

Do not open this product as it contains high voltage inside.

It may create an electric shock.

If the user disassembles and remove the back cover, it does not make sure

to make up for the damage and do a service and exchange the monitor.

! Cautions

Install this monitor some distance from the wall and do not install unless proper ventilation is provided.

over 10cm
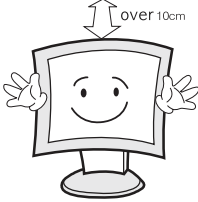
Place this product on a stable place. If not, it may fall, causing serious damages to the monitor and people.

The openings must not be blocked by curtain, rug or other similar surface.

When carrying this monitor, be careful not to damage the panel and drop it. It may cause some trouble.
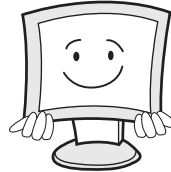
Before carrying the monitor, turn it off and unplug the signal cables and the power cord from the wall outlet.

Take the power plug out from the wall outlet.
Do not pull the cable. It may snap the inner-wires and cause overheating and fire.

! Cautions

Install this monitor about 50cm far from the eyes and an angle of 0~15 degrees below eyes. Too close installation may cause having weak sight.

50cm

Do not press the LCD panel with hands or the sharpened material hardly.
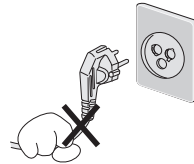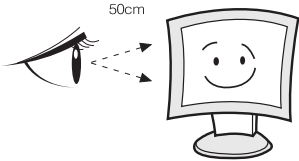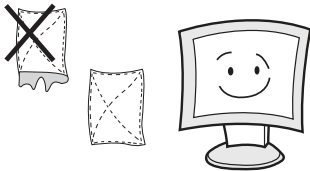
For cleaning, unplug the monitor from the wall outlet. Do net use the liquid cloth. Use the soft cloth.

Do not use the chemical liquid for cleaning. It may cause fading and breakage.

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR WATER.

Instructions for Disposal of Electrical and Electronic Equipment in Private Households

**Disposal of used Electrical and Electronic Equipment
(Applicable in the European Union and other European countries with garbage separate disposal and collection methods)**

This symbol on the product, or in the related documents in the package, indicates that this product shall not be treated as normal household waste. Instead, it should be taken to a proper applicable collection point or depot for the recycling of electrical and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent possible negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources.

For more detailed information about recycling of this product, please contact your local city authority, your household waste disposal service or the place where you purchased the product.

2. FCC RF INTERFERENCE STATEMENT

NOTE

This equipment has been tested and found to comply with the limits for a Class A 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.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the users authority to operate such equipment.

DOC COMPLIANCE NOTICE

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulation of Canadian Department of communications.

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3. INSTALLATION

3-1 Parts
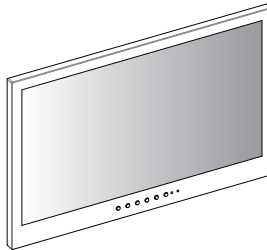
LCD Monitor

Adapter
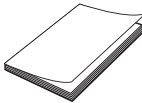
User Manual
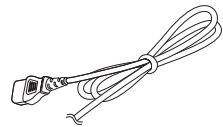
Power Cable

Battery
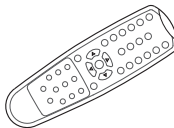
Remote Controller

3-2 How to Install

KEY BUTTON
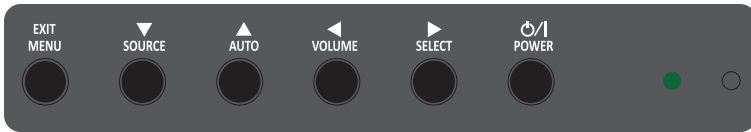
SHORT KEY FUNCTION

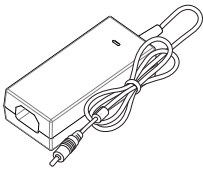| OSD Key	Function
MENU / EXIT	Activate the menu function / Exit from the menu
SOURCE / ▼	Input source menu / Source selection(move down from OSD menu)
AUTO / ▲	Auto-fit screen with PC-RGB input / move up from OSD menu
◄ VOL	Decrease the level of volume and move the previous menu
► SELECT	Increase the level of volume and select the OSD menu
⏻	Power On / Off
LED	Red : Power Off state Green : Power On and available input signal state Orange : When DPMS "ON" state, no input signal
▲ + ◄	Press "▲, ◄" Key for 10 seconds simultaneously to lock / unlock OSD Key

CONNECTION
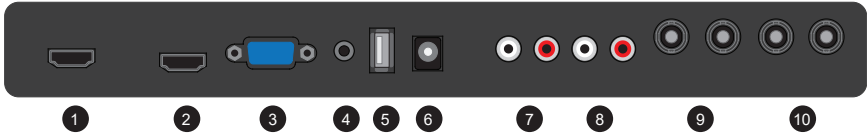
1 HDMI 1
HDMI signal 1 input

6 DC12V
DC adapter input

2 HDMI 2
HDMI signal 2 input

7 AUDIO (VIDEO-1)
Stereo audio input for VIEO-1

3 VGA
VGA (PC RGB) signal input

8 AUDIO (VIDEO-2)
Stereo audio input for VIDEO-2

4 AUDIO (PC)
Stereo audio input for VGA

9 VIDEO-1 IN/OUT
VIDEO-1 signal input / looping out

5 For FW Update

10 VIDEO-2 IN/OUT
VIDEO-2 signal input / looping out

REMOTE CONTROLLER

A **MODE SELECT MENU**

VIDEO1
Select VIDEO1 mode

HDMI1
Select HDMI1 mode

HDMI2
Select HDMI2 mode

VIDEO2
Select VIDEO2 mode

VGA (RGB)
Select VGA mode

B **OSD CONTROL MENU**

POWER
Turn ON / OFF the monitor

AUTO
Auto adjust position of the screen (in VGA mode)

SCAN MODE
Select the scan mode of the screen

MENU / EXIT
Activate and exit the OSD menu

STILL
Freeze the current image

MUTE
Turn ON / OFF the sound

COLOR TEMPERATURE
Select color temperature of the screen

VOL- / VOL+
Increase / Decrease the volume level

KEY LOCK
Locking the button (Prevent operation)
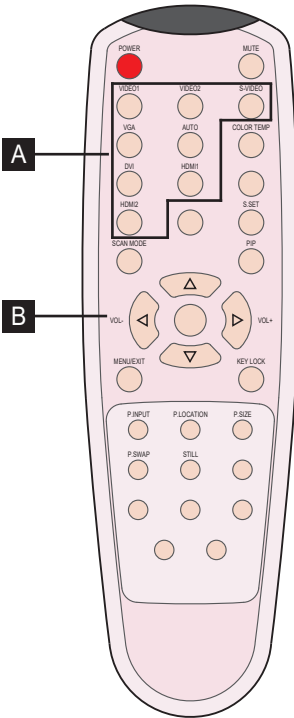
4. OSD MENU SETTING

4-1 Menu Structure

When user presses the menu key, the first "PICTURE" menu is displayed. Select by "◀"
key then three types of menu functions are shown as below.

- 🖥 PICTURE : Menu related to PICTURE Function

- 🎵 SOUND : Menu related to SOUND Function

- ⊞ OPTION : Other OSD Menu Status Control and Firmware Update

If press "▲, ▼" key, then select sub title in functions.

4-2 PICTURE Menu
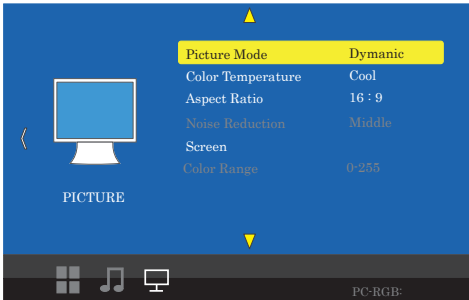
The PICTURE Menu can be selected from the following 7 modes by pressing the ▲ or ▼ key.

Picture Mode	Adjust sate of the picture
Color Temperature	Change color according to the color temperature
Aspect Ratio	Change the aspect ratio
Noise Reduction	Adjust noise attenuation of input signal
Screen	Adjust the PC-RGB input signal to fit the screen
Color Range	Setting the Color Expression Range

4-2-1 Picture Mode

Picture Mode can select 4 modes as Mild, Dynamic, Standard and User as shown in the figure below.
Press the " ◀ , ▶ " key to change the mode.

◀ Picture Mode Mild ▷	◀ Picture Mode Dynamic ▷	◀ Picture Mode Standard ▷	◀ Picture Mode User ▷
Contrast 45	Contrast 60	Contrast 50	Contrast 60
Brightness 48	Brightness 50	Brightness 50	Brightness 50
Color 45	Color 60	Color 50	Color 60
Sharpness 50	Sharpness 60	Sharpness 50	Sharpness 60
Tint 50	Tint 50	Tint 50	Tint 50
↖ MENU	↖ MENU	↖ MENU	↖ MENU
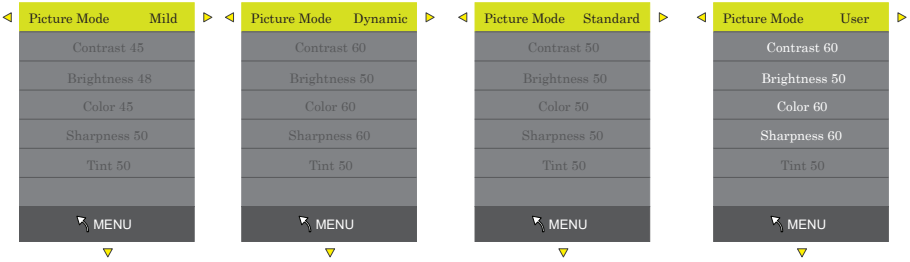
Three of the four modes except for User mode are shipped with fixed values at the time of shipment from the factory.
User mode can be set with " ◀ , ▶ " keys by selecting each item below with " ▲ , ▼ " key only in the User mode.

Contrast	Adjust difference in the color and brightness
Brightness	Adjust the dark and light
Color	Adjust for desired color intensity
Sharpness	Adjust for best clarity of outline detail
Tint	Adjust for natural flesh tones

4-2-2 Color Temperature

Color Temperature can select 4 modes as Cool, Medium, Warm and User as shown in the figure below.

◀ Color Tempera.. Cool ▷	◀ Color Tempera.. Medium ▷	◀ Color Tempera.. Warm ▷	◀ Color Tempera.. User ▷
Red 43	Red 50	Red 60	Red 50
Green 50	Green 50	Green 50	Green 50
Blue 68	Blue 55	Blue 25	Blue 50
↖ MENU	↖ MENU	↖ MENU	↖ MENU

Three modes except User mode are factory shipped with factory default values, and
each color item (RED, GREEN, BLUE) is selected with the " ▲ , ▼ " keys in the User mode only.
User settings are available.

4-2-3 Aspect Ratio

Aspect Ratio allows user to select the each aspect ratio as shown in the figure below.

(However, activated list is according to the input port and the input resolution.)

Aspect Ratio
Auto
4 : 3
16 : 9
Zoom1
Zoom2
Just Scan
⬉ MENU
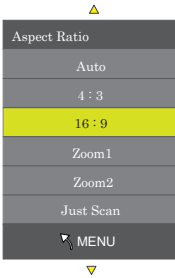
4-2-4 Noise Reduction

Noise Reduction can select 5 modes as Off, Low, Middle, High, Default as shown in the figure below.

Noise Reduction
Off
Low
Middle
High
Default
⬉ MENU

4-2-5 Screen

Screen enables to set the active area of the display when using PC-RGB input port.

Screen
Auto Adjust
Horizontal Pos. 4
Vertical Pos. 91
Size 100
Phase 100
⬉ MENU

Screen
Auto Adjust
◁ − Horizontal Pos. 4 + ▷
Vertical Pos. 91
Size 100
Phase 100
⬉ MENU

Screen
Auto Adjust
Horizontal Pos. 4
◁ − Vertical Pos. 91 + ▷
Size 100
Phase 100
⬉ MENU

Screen
Auto Adjust
Horizontal Pos. 4
Vertical Pos. 91
◁ − Size 100 + ▷
Phase 100
⬉ MENU

Screen
Auto Adjust
Horizontal Pos. 4
Vertical Pos. 91
Size 100
◁ − Phase 100 + ▷
⬉ MENU

Auto Adjust is an item to be set automatically, and the input signal should be operated in the signal state where the Outline has a lot of white color.

4-2-6 Color Range

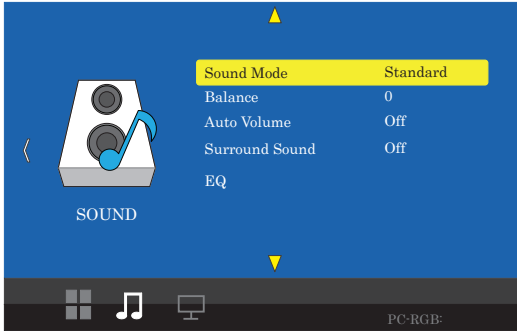Color Range sets the range of color expressions on the display.

(Press the " ▶ SELECT" key to select either"0~255", "16~235")

4-3 SOUND Menu

The SOUND Menu can be selected from the following 5 modes by pressing the ▲ or ▼ key.

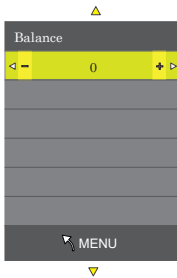| Sound Mode	Sound mode selection
Balance	Adjust Left and Right audio balance
Auto Volume	Auto volume control for input audio
Surround Sound	Surround Sound selection
EQ	Adjust Sound Equalizer

4-3-1 Sound Mode

Sound Mode can select 5 modes as Standard, Movie, Sports, Music and User as shown in the figure below.
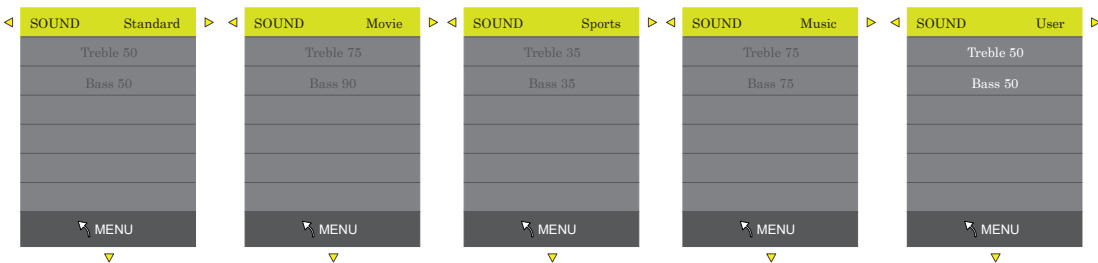
Four modes except User mode are factory shipped with factory default values,

and both item (Treble, Bass) is selected with the "▲, ▼" keys in the User mode only.

Each item set by pressing the "◀, ▶".

4-3-2 Balance

Balance can adjust the left and right volume of audio and set by pressing the "◀, ▶".

```
△
┌─────────────────────┐
│ Balance             │
│◁ ━      0      ＋ ▷ │
│                     │
│                     │
│                     │
│                     │
│                     │
│      ↖ MENU        │
└─────────────────────┘
▽
```
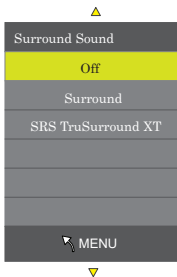
4-3-3 Auto Volume

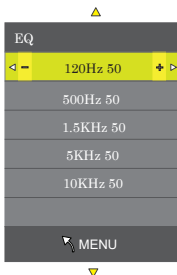Control for input audio when pressing "▶ SELECT" key select On/Off.

4-3-4 Surround Sound

When pressing "▲, ▼" keys select from three modes as Off, Surround, SRS TruSurround XT by shown in the figure below.

```
△
┌─────────────────────┐
│ Surround Sound      │
│        Off          │
│      Surround       │
│ SRS TruSurround XT  │
│                     │
│                     │
│                     │
│      ↖ MENU        │
└─────────────────────┘
▽
```

4-3-5 EQ

Equalizer Frequency is selected with the "▲, ▼" keys. each frequency adjust by pressing the "◀, ▶".

```
△
┌─────────────────────┐
│ EQ                  │
│◁ ━   120Hz 50  ＋ ▷ │
│      500Hz 50       │
│      1.5KHz 50      │
│      5KHz 50        │
│      10KHz 50       │
│                     │
│      ↖ MENU        │
└─────────────────────┘
▽
```
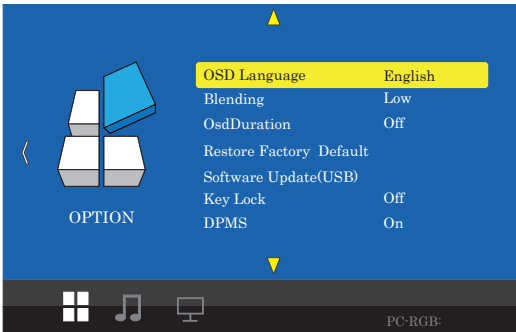
4-4 Option Menu

The Option Menu can be selected from the following 6 modes by pressing the ▲ or ▼ key.

OSD Language	Selectable OSD Menu Language
Blending	Adjust blending for OSD Menu and Main window
OSD Duration	Setting Duration time of OSD Menu
Restore Factory Default	
Software Update(USB)	
Key Lock	
DPMS	When input signal is the no signal, DPMS "on" change the power saving mode.

4-4-1 OSD Language

As shown in the figure below, OSD Language can be se▲lected by "▲, ▼" key.

4-4-2 Blending

OSD Menu Bleding can select 4 modes as Off, Low, Middle, High by pressing the "▶ SELECT" key.

4-4-3 OsdDuration

OSD menu Duration can select 4 modes as 5, 10, 15Sec and Off by pressing the "▶ SELECT" key.
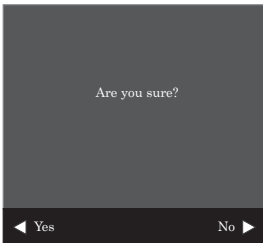
4-4-4 Restore Factory Default

Restore factory default can be selected by pressing the "▶ SELECT" key. Select Yes or No by the "◀, ▶" key.

4-4-5 Software Update(USB)

Sofrware update default can be selected by pressing the "Menu" key. Select Yes or No by the "◀, ▶" key.

4-4-6 Key Lock

Key lock default can be selected by pressing the "▶ SELECT" key.

KEY LOCK ON

KEY LOCK OFF

4-4-7 DPMS

The function can be activated(ON) or deactivated(OFF) with the button ▶ .

4-5 INPUT SOURCE

Input Source can be selected from the following four input modes by using the ▲ and ▼
keys when the window as shown below is displayed by pressing the "SOURCE / ▼" key in the Main window.
(Input Source can be selected by ▲ and ▼ key when window shown as below. To be in this menu,
pressing the "SOURCE" / ▼" key in the Main window.)

Input Source
PC - RGB
HDMI2
HDMI1
AV 2
AV 1
◉ OK
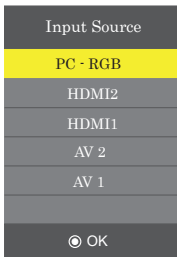
4-6 Audio Volume

Audio Volume can be increased or decreased by pressing "VOL- / ◄", "VOL + / ▶" Key.

🔊 20

5. FEATURE

General Features		VMC-22LED
Display	Screen Size	21.5 inches
	Resolution	1920*1080pixels
	Pixel Pitch	0.248*0.248 mm
	Brightness	250cd/m²
	Contrast Ratio	1000 : 1
	Aspect Ratio	16 : 9
	Viewing Angle(H/V)	178/178 degress
	Display Color	16.7 million
	Response Time	5 ms
	Video System	NTSC / PAL
	Panel Life Time(hours)	30,000 hours
Interface	Video In/Out(BNC Type)	2/2
	VGA In(15Pin D-sub)	1
	HDMI In	2
	Audio In(RCA Type)	2
	PC Stereo In	1
Audio	Built in Speakers	Y(1W*2)
Transmetter	Remote Control	Y
Special Features	Filter Type	3D Comb Filter
	Noise reduction	Y
	Multi Lingual Language	Eng, Spa, Fre, Ger, Ita
Dimension	Outline Dimension(w Stand)	20.4*13.1*3.2 inches
Cabinet	Cabinet color/Base Stand	Black/Tilt Back
	Cabinet Material	Electro-Galvanized Steel
Power	Electrical Ratings	AC 100~240V(50/60Hz)
		DC 12V
Circumstance	Operating Temperature	0~50 celsius
	Storage Temperautre	-20~60 celsius
Mounts	VESA Mounts Size	100*100 mm
Options	Ceiling Mount	CMK-01
	Wall	WB-5, 10, 30, 31
	Rack Mount	RMK-08
	LCD Protection Glass	Y

6. TROUBLESHOOTING

* When the following troubles are occurred, follow the trouble shooting. Before contacting service center.

Troubleshooting	Troubleshooting Tip
The screen doesn't show up	1. Make sure if the power supply is connected property 2. Turn on the power. 3. Select the input signal right for the connected port.
The screen is too light or to dark	Control the BRIGHTNESS
The screen size is not fit for the PC signal	Press the AUTO key among keys in the front. (It is used only in the PC signal)
The screen color shows strange in the PC signal	In the FUNCTION menu of OSD menu, perform the AUTOADJUST.
The key pad does not work	Press ▲ and ◄ button on the key pad for 10 seconds.

Technical changes reserved