

User's Guide

M2900S
M3800S

Make sure to read the **Safety Precautions** before using the product.

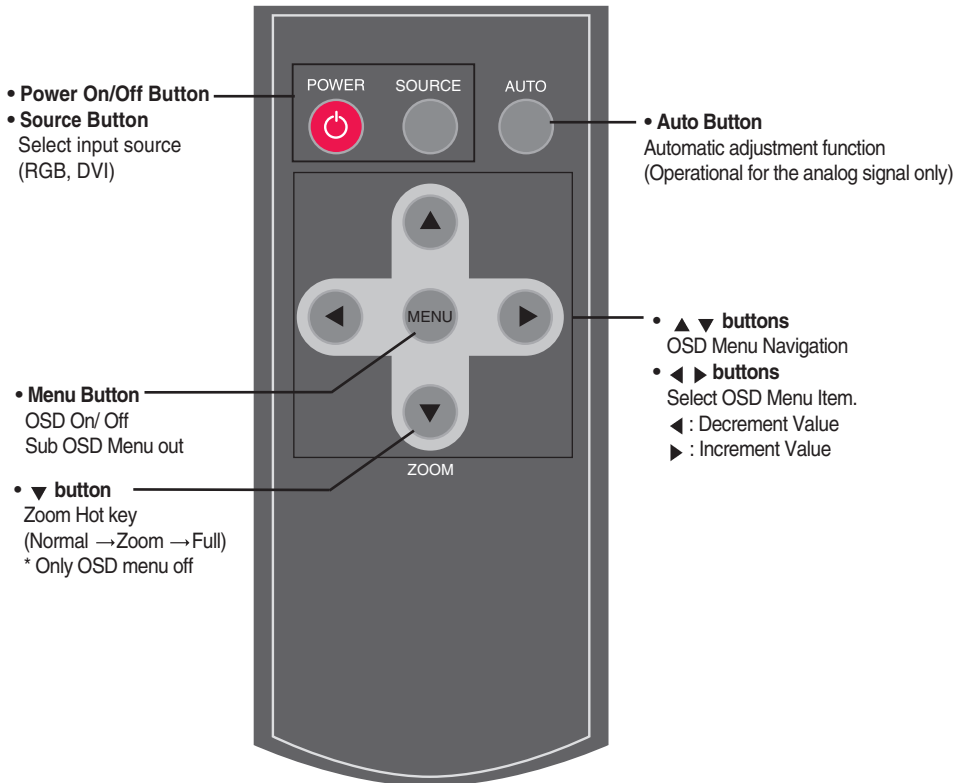
Keep the User's Guide(CD) in an accessible place for future reference.

See the label attached on the product and give the information to your dealer when you ask for service.

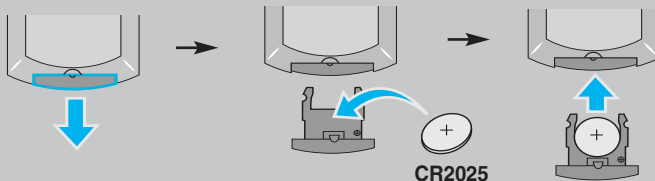


Using the Remote Control

● Name of the Remote Control Buttons



● Inserting batteries into remote control.

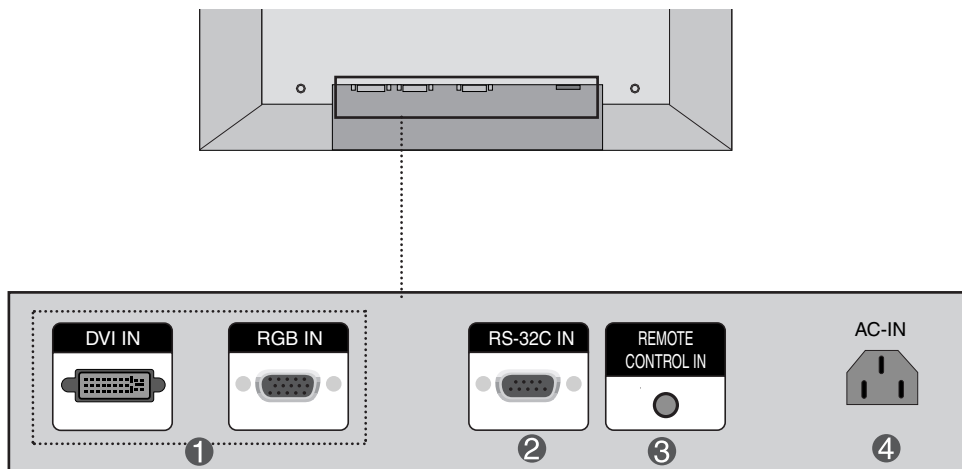


1. Slide off the battery cover.
2. Insert the batteries with correct polarity (+/-).
3. Close the battery cover.
 - Dispose of used batteries in the recycle bin to prevent environmental pollution.

Name and Function of the Parts

* The product image in the user's guide could be different from the actual image.

● Rear View



- ① DVI, RGB Ports
- ② RS-232C Serial Port
- ③ Wired Remote Control Port
- ④ Power Connector : Connect the power cord

Connecting to External Devices

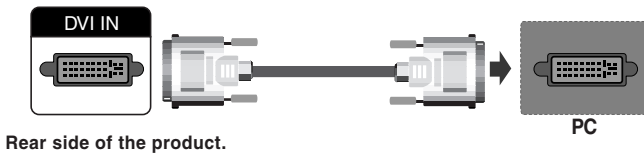
■ ■ ■ When Connecting to your PC

1 First of all, see if the computer, product and the peripherals are turned off. Then, connect the signal input cable.

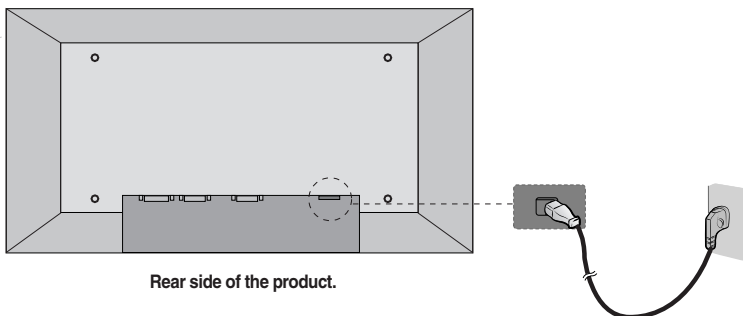
A When connecting with the D-Sub signal input cable. (RGB)



B When connecting with the DVI signal input cable.

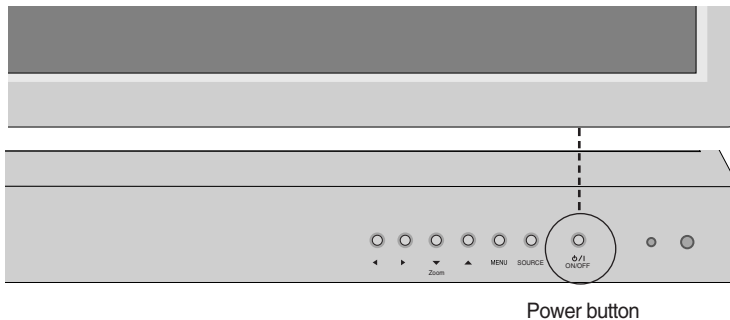


2 Connect the power cord.



Connecting to External Devices

- ③ ① Turn on power by pressing the power button on the product.



- ② Turn on the PC.

To change input source

Press the SOURCE button on the remote control to select the input signal.
Or, press the SOURCE button on the bottom of the product.

DVI signal ↔ D-Sub signal



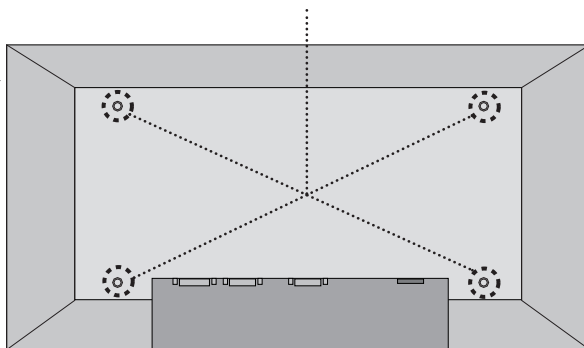
Note

- **How to connect to two computers.**
Connect the signal cables (DVI and D-Sub) to each computer.
Press the SOURCE button on the remote control to select the computer to use.
- **Directly connect to a grounded power outlet or power strip (three prong connector.)**

Connecting to External Devices

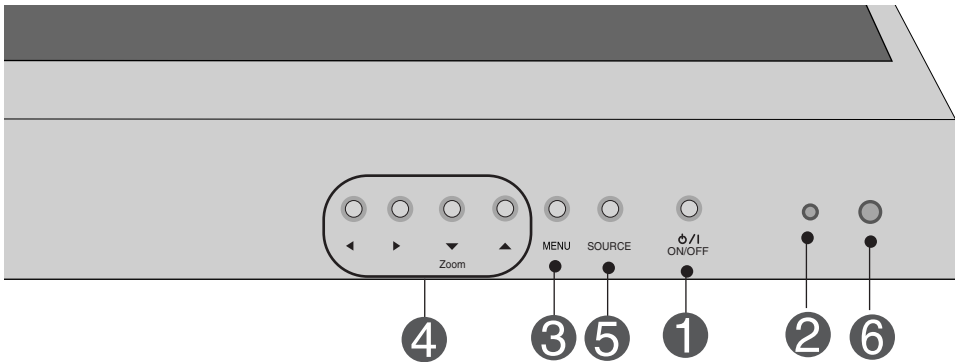
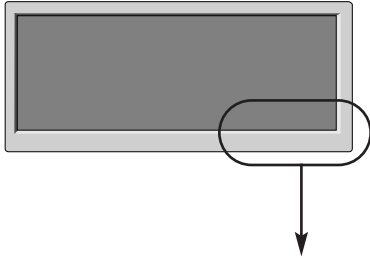
VESA FDMI wall Mounting

This product supports a VESA FDMI compliant mounting interface. These mounts are purchased separately and not available from LG. Refer to the instructions included with the mount for more info.



User Menus

● Screen Adjustment options



1

Power Button

- Press this button to turn on the power. Press this button again to turn it off.

2

Power Indicator

- This Indicator lights up green when the display operates normally (on mode). If the display is in sleep (Energy Saving) mode, this indicator color changes to amber.

3

MENU Button

- Use this button to show/hide the OSD (On Screen Display) menu screen.

4

OSD Select / Adjust Button

- Use this button to select an icon or adjust the setting in the OSD screen.

▼ ▲ OSD Menu Navigation up and down

▼ : Zoom Hot key (Normal → Zoom → Full)
Zoom



◀ : Select Menu Item, Decrement Value
▶ : Select Menu Item, Increment Value

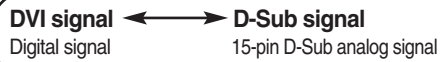
User Menu

● Screen Adjustment options

5 SOURCE Button To change input source depending on connected signal.

Press the SOURCE button on the remote control to select the input signal.





Or, press the SOURCE button on the bottom of the product.



6 IR Receiver • This is where the unit receives signals from the remote control.

User Menus

OSD Menu

Icon	Function Description
 PICTURE	Adjusts screen brightness, contrast and color that you prefer.
 ZOOM	Adjusts the screen size.
 TIMER	Adjusts the timer options.
 OSD	Adjusts the OSD image.



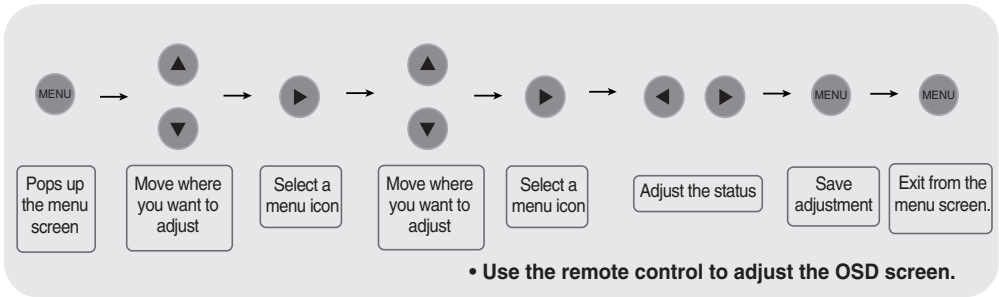
Note

OSD(On Screen Display)

The OSD function enables you to adjust the screen status conveniently since it provides graphical presentation.

User Menus

● How to adjust the OSD (On Screen Display) screen



1 Press the **MENU** Button, then the main menu of the OSD appears.

2 To access a control, use the ▼ ▲ Buttons.

3 When the icon you want becomes highlighted, press the ► Button.

4 Use the ◀ ▶ Buttons to adjust the item to the desired level.

5 Accept the changes by pressing the **MENU** Button.

6 Exit the OSD by pressing the **MENU** Button.

● How to adjust the screen automatically

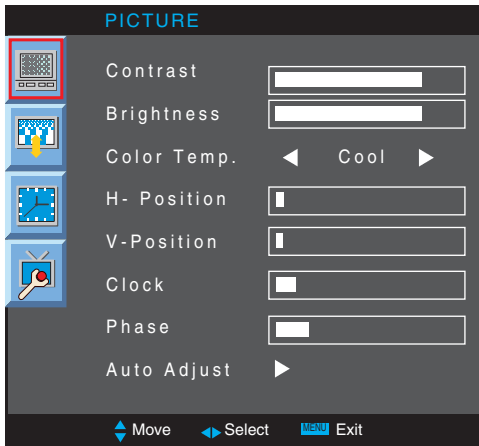
Press the AUTO button on a remote Control in the PC analog signal. Then optimal screen settings will be selected that fit into the current mode. If adjustment is not satisfactory, you can adjust the screen manually.

Auto-Adjust

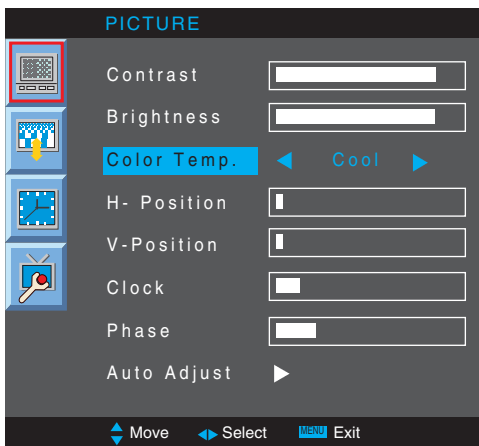
User Menus



Adjusting Screen Color



- Contrast** Adjust the difference between the light and dark levels in the picture.
- Brightness** To adjust the brightness of the screen.
- Color Temp** Color Settings

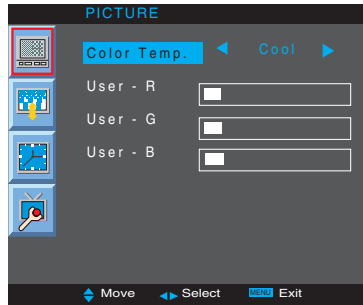


- **Cool** : Slightly purplish white.
- **Normal** : Slightly bluish white.
- **Warm** : Slightly reddish white.
- **User** : Select this option to use the user-defined settings.

User Menus



Adjusting Screen Color



Red / Green / Blue

Set your own color levels.

H-Position : Moving the screen position horizontally.

V-Position : Moving the screen position vertically.

Clock : To minimize any vertical bars or stripes visible on the screen background. The horizontal screen size will also change. This function is available for analog signals only.

Phase : To adjust the focus of the display. This item allows you to remove any horizontal noise and clear or sharpen the image of characters. This function is available for analog signals only.

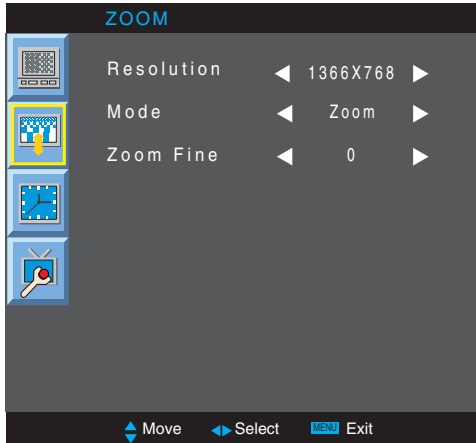
Auto Adjust (RGB PC input only) : This button is for the automatic adjustment of the screen position, clock and phase. This function is available for analog signals only.

User Menus



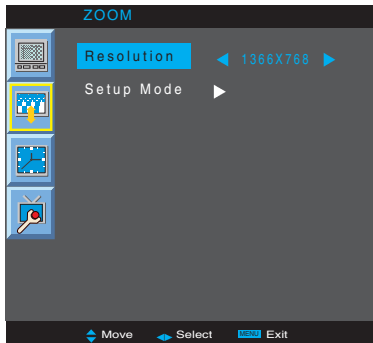
Adjusting Screen size

Resolution



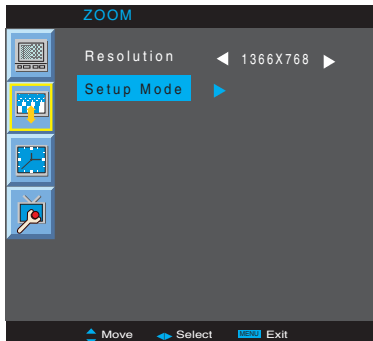
For more improved or better picture quality, select the same mode corresponding to computer resolution.

1.



Press the ◀ ▶ button.

2.



Press the ▼ button.

3. Accept the changes by pressing the ▶ Button.

User Menu



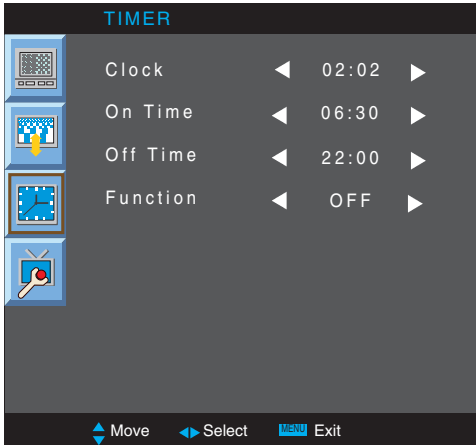
Adjusting Screen size

- Mode** To select the image size of the screen.
- Normal** The aspect ratio is not adjusted from the original. It is set by the program being watched.
- Full** When your AV receives the wide screen signal, it will lead you to adjust the picture horizontally or vertically, in a linear proportion, to fill the entire screen fully.
- Zoom** When an image created based on M2900S model resolution (1366 X 480) and an image based on M3800S model resolution (1366 X 398) are used in different models, this function adjusts an image to fit to the screen size without cutting it or leaving any empty space on screen.
- Zoom Fine** To adjust the enlarged or reduced areas on the screen when the product is in Zoom mode.

User Menus



Adjusting the timer function



Clock

If the current time is incorrect, reset the clock manually.

- 1) Press the **MENU** button and then use **▼▲** button to select the **TIMER** menu.
- 2) Press the **▶** button and then use **▼▲** button to select the **Clock** menu.
- 3) Press the **▶** button and then use **◀▶** button to set the hour(00~23).
- 4) Press the **▼** button and then use **◀▶** button to set the minutes(00~59).
- 5) Press the **MENU** button.

On/ Off Time

The off time automatically switches the set to standby at the pre-set time.

- 1) Press the **MENU** button and then use **▼▲** button to select the **TIMER** menu.
- 2) Press the **▶** button and then use **▼▲** button to select **Off Time** or **On Time**.
- 3) Press the **▶** button and then use **◀▶** button to set the hour(00~23).
- 4) Press the **▼** button and then use **◀▶** button to set the minutes(00~59).
- 5) Press the **MENU** button.

Function

To set automatic On/Off.

On : Automatically turn the product On/Off at preset times.

Off : Disable the On/Off Time function.

Note



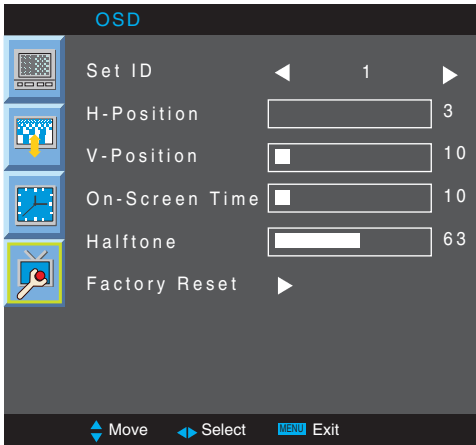
- In the event of power interruption (disconnection or power failure), the clock must be reset.
- Once the on or off time is set, these functions operate daily at the preset time.
- Off time function overrides On time function if they are set to the same time.
- When On time is operated, input screen is turned on as it was turned off.

User Menus



Adjusting OSD image

OSD



- Set ID** You can assign a unique **Set ID** NO (name assignment) to each product when several products are connected for display. Specify the number (1~99) using the ◀, ▶ button and exit. Use the assigned **Set ID** to individually control each product using the Product Control Program.
- H-Position** Moving the OSD screen position horizontally.
- V-Position** Moving the OSD screen position vertically.
- On-Screen Time** To set the period of time that the OSD is displayed on the screen. (Available times : 3 to 24 second.)
- Halftone** To adjust the transparency of the OSD menu screen.
- Factory Reset** Select this option to return to the default factory settings.

Troubleshooting

No image is displayed

- Is the product power cord connected?
 - See if the power cord is properly connected to the outlet.
- Is the power indicator light on?
 - See if the power switch is turned on.
 - May need service.
- Power is on, power indicator is green but the screen appears extremely dark.
 - Adjust brightness and contrast again.
 - Backlight may need repair.
- the power indicator amber?
 - If the product is in power saving mode, move the mouse or press any key.
 - Turn both devices off and then back on.
- Does the 'Out of range' message appear?
 - The signal from the PC (video card) is out of the vertical or horizontal frequency range of the product. Adjust the frequency range by referring to the Specifications in this manual.
 - * **Maximum resolution**
 - RGB : 1280 x 1024 @60Hz
 - DVI : 1280 x 1024 @60Hz
- Does the 'no signal' message appear?
 - The signal cable between PC and product is not connected. Check the signal cable.
 - Press the 'SOURCE' menu in the remote Control to check the input signal.

'Unknown Product' message appears when the product is connected.

- Did you install the driver?
 - Install the product driver, which is provided with the product, or download it from the web site. (<http://www.lge.com>)
 - See if the plug&play function is supported by referring to the video card user manual.



Note

* **Vertical frequency:** To enable the user to watch the product display, screen image should be changed tens of times every second like a fluorescent lamp. The vertical frequency or refresh rate is the times of image display per second. The unit is Hz.

* **Horizontal frequency:** The horizontal interval is the time to display one vertical line. When 1 is divided by the horizontal interval, the number of horizontal lines displayed every second can be tabulated as the horizontal frequency. The unit is kHz.

Troubleshooting

The screen image looks abnormal.

- **Is the screen position wrong?**
 - D-Sub analog signal – Press the “AUTO” button in the remote control to automatically select the optimal screen status that fits into the current mode. If adjustment is not satisfactory, use the Position OSD menu.
 - See if the video card resolution and frequency are supported by the product. If the frequency is out of range, set to the recommended resolution in the Control Panel – Display – Setting menu.
- **Do thin lines appear on the background screen?**
 - D-Sub analog signal – Press the “AUTO” button in the remote control to automatically select an optimal screen status that fits into the current mode. If adjustment is not satisfactory, use the Clock OSD menu.
- **Horizontal noise appears or the characters look blurred.**
 - D-Sub analog signal – Press the “AUTO” button in the remote control to automatically select an optimal screen status that fits into the current mode. If adjustment is not satisfactory, use the Phase OSD menu.
- **The screen is displayed abnormally.**
 - The proper input signal is not connected to the signal port. Connect the signal cable that matches with the source input signal.

After-image appears on the product.

- **After-image appears when the product is turned off.**
 - If you use a fixed image for a long time, the pixels may be damaged quickly. Use the screen-saver function.

Troubleshooting

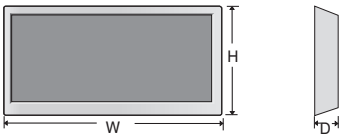
Screen color is abnormal.

- **Screen has poor color resolution (16 colors).**
 - **Screen color is unstable or mono-colored.**
 - **Do black spots appear on the screen?**
- Set the number of colors to more than 24 bits (true color)
Select Control Panel – Display – Settings – Color Table menu in Windows.
 - Check the connection status of the signal cable.
Or, re-insert the PC video card.
 - Several pixels (red, green, white or black color) may appear on the screen, which can be attributable to the unique characteristics of the LCD panel. It is not a malfunction of the LCD.

Specifications

The product specifications can change without prior notice for product improvement.

M2900S

LCD Panel	29.1 inches (73.95 cm) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Visible diagonal size: 73.95 cm 0.17025 mm X RGB X 0.51075 mm (Pixel Pitch)
Power	Rated Voltage AC 100-240V~ 50/60Hz 1.1A Power Consumption On Mode : 65W Typ. Sleep Mode : ≤ 2W Off Mode : ≤ 1W
Dimensions & Weight	 <p>Width x Height x Depth 76.58 cm (30.15 inches) x 30.82 cm (12.13 inches) x 9.8 cm (3.86 inches)</p> <p>Net 13 kg (28.66 lbs)</p>

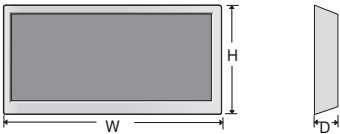
NOTE

- Information in this document is subject to change without notice.

Specifications

The product specifications can change without prior notice for product improvement.

M3800S

LCD Panel	38.1 inches (96.89 cm) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Visible diagonal size: 96.89 cm 0.227 mm X RGB X 0.681 mm (Pixel Pitch)
Power	Rated Voltage AC 100-240V~ 50/60Hz 1.3A Power Consumption On Mode : 88W Typ. Sleep Mode : ≤ 2W Off Mode : ≤ 1W
Dimensions & Weight	 <p>Width x Height x Depth 98.88 cm (38.93 inches) x 32.92 cm (12.96 inches) x 9.2 cm (3.62 inches)</p> <p>Net 16 kg (35.27 lbs)</p>

NOTE

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Specifications

The product specifications can change without prior notice for product improvement.

Video Signal	Max. Resolution	RGB : 1366 X 768 @60Hz (1280 X 1024@60Hz) DVI : 1366 X 768 @60Hz (1280 X 1024@60Hz) – It may not be supported depending on the OS or video card type.
	Recommended Resolution	RGB : 1360 X 768 @60Hz DVI : 1360 X 768 @60Hz – It may not be supported depending on the OS or video card type.
	Horizontal Frequency	RGB : 28 - 70 kHz DVI : 28 - 70 kHz
	Vertical Frequency	57 - 63 Hz
	Synchronization Type	Separate/Digital
Input Connector	15-pin D-Sub type, DVI (digital), RS-232C	
Environmental Conditions	Operational Condition	Temperature: 5°C ~ 35°C , Humidity: 10% ~ 80%
	Storage Condition	Temperature: -20°C ~ 60°C , Humidity: 5% ~ 90%

NOTE

- Information in this document is subject to change without notice.

Specifications

● PC Mode – Preset Mode

	Preset mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)		Preset mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	640 x 480	31.469	59.94	9	1360 x 768	47.72	59.799
2	720 x 400	31.468	70.08	10	1360 x 768	47.712	60.015
3	720 x 400	31.5	70.156	11	1366 x 768	47.713	59.65
4	800 x 600	37.354	59.861	12	1366 x 768	49.02	60.0
5	800 x 600	37.879	60.317	13	1280 x 1024	63.668	59.895
6	1024 x 768	47.816	59.92	14	1280 x 1024	63.981	60.02
7	1024 x 768	48.363	60.004				
8	1360 x 768	47.72	59.799				

* 8~14 Select Resolution In OSD Zoom Menu

● Power Indicator

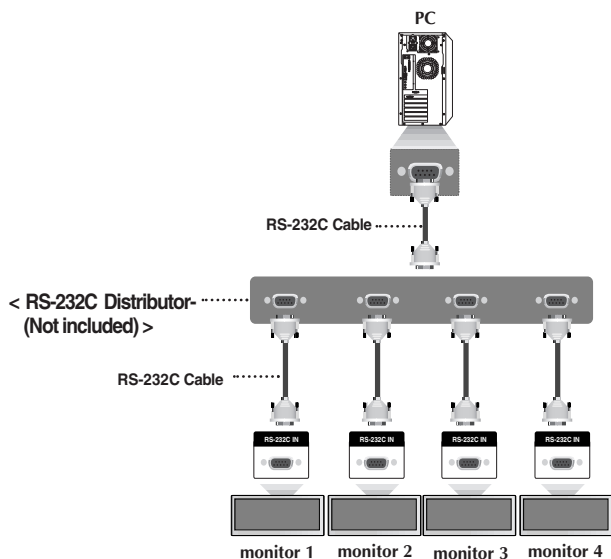
Mode	Product
On Mode	Green
Sleep Mode	Amber
Off Mode	Red

Use this method to connect several products to a single PC.
 You can control several products at a time by connecting them to a single PC.

Connecting the cable

Connect the RS-232C cable as shown in the picture.

* The RS-232C protocol is used for communication between the PC and product. You can turn the product on/off, select an input source or adjust the OSD menu from your PC.



RS-232C Configurations

7-Wire Configurations (Standard RS-232C cable)

	PC	Monitor	
RXD	2	2	TXD
TXD	3	3	RXD
GND	5	5	GND
DTR	4	4	DSR
DSR	6	6	DTR
RTS	7	7	CTS
CTS	8	8	RTS
	D-Sub 9 (Female)	D-Sub 9 (Male)	

3-Wire Configurations (Not Standard)

	PC	Monitor	
RXD	2	2	TXD
TXD	3	3	RXD
GND	5	5	GND
DTR	4	4	DSR
DSR	6	6	DTR
RTS	7	7	CTS
CTS	8	8	RTS
	D-Sub 9 (Female)	D-Sub 9 (Male)	

Communication Parameter

- ▶ Baud Rate : 9600baudRate (UART)
- ▶ Data Length : 8bits
- ▶ Parity Bit : None
- ▶ Stop Bit : 1bit
- ▶ Flow Control : None
- ▶ Communication Code : ASCII code
- ▶ Use a straight cable

● Command Reference List

	COMMAND1	COMMAND2	DATA(ASCII)
01. Power	j	k	000 - 001
02. Source	j	l	000 - 001
03. Brightness	j	m	000 - 100
04. Contrast	j	n	000 - 100
05. Color Temperature	j	p	000 - 003
06. Resolution	j	q	000 - 002
07. Zoom	j	r	000 - 002
08. Auto Adjust	j	s	000

● Transmission / Receiving Protocol

Transmission

[Command1][Set ID][Command2][Data][Cr]

- * [Command 1]: First command. (j)
- * [Command 2]: Second command.
- * [Set ID]: Set up the Set ID number of product.
range : 00~99. by setting '0', server can control all products.
* In case of operating with more than 2 sets using set ID as '0' at the same time, it should not be checked the ack message.
Because all sets will send the ack message, so it's impossible the check the whole ack messages.
- * [DATA]: To transmit command data.
- * [Cr]: Carriage Return
ASCII code '0x0D'

OK Acknowledgement


[OK]

- * The Product transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

Error Acknowledgement

[NG]

- * If there is error, it returns NG.

 Transmission / Receiving Protocol**01. Power(Command : k)**

- ▶ To control Power On/Off of the Set.

Transmission

```
[j][Set ID][k][Data][Cr]
```

Data(ASCII) 000 : Power Off 001 : Power On

Acknowledgement

```
[OK]
```

02. Source (Command : l)

- ▶ To select input source for the Set.
You can also select an input source using the SOURCE button on the remote control.

Transmission

```
[j][Set ID][l][Data][Cr]
```

Data(ASCII) 000 : RGB 001 : DVI

Acknowledgement

```
[OK]
```

 Transmission / Receiving Protocol**03. Brightness(Command : m)**

▶ To adjust screen brightness.

You can also adjust the brightness in the Picture menu.

Transmission

Data(ASCII) Min : 000 ~ Max : 100

*Acknowledgement***04. Contrast(Command : n)**

▶ To adjust screen contrast.

You can also adjust the contrast in the Picture menu.

Transmission

Data(ASCII) Min : 000 ~ Max : 100

Acknowledgement

 Transmission / Receiving Protocol**05. Color Temperature (Command : p)**

► To adjust the screen color temperature.

Transmission

```
[j][Set ID][p][Data][Cr]
```

Data (ASCII)

000 : Normal

001 : Cool

002 : Warm

003 : User

Acknowledgement

```
[OK]
```

06. Resolution (Command : q)

► To adjust the screen format.

Transmission

```
[j][Set ID][q][Data][Cr]
```

Data (ASCII)

000 : 1366 X 768

001 : 1360 X 768

002 : 1024 X 768

Acknowledgement

```
[OK]
```

● Transmission / Receiving Protocol

07. Zoom (Command : r)

- ▶ To adjust the enlarged or reduced areas on the screen when the product is in Zoom mode.

Transmission

```
[j][Set ID][r][Data][Cr]
```

Data (ASCII)

000 : Normal

001 : Zoom

002 : Full

Acknowledgement

```
[OK]
```

08. Auto adjust (Command: s)

- ▶ To adjust picture position and minimize image shaking automatically. it works only in RGB mode.

Transmission

```
[j][Set ID][s][Data][Cr]
```

Data (ASCII) 000 : To set

Acknowledgement

```
[OK]
```

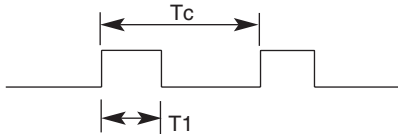
How to connect

- ▶ Connect your wired remote control to Remote Control port on the Product.

Remote Control IR Code

▶ Output waveform

single pulse, modulated with 37.917KHz signal at 455KHz



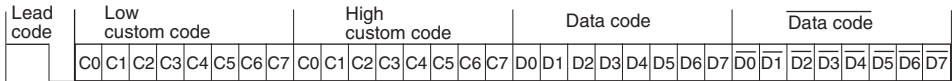
Carrier frequency

$$FCAR = 1/Tc = fosc/12$$

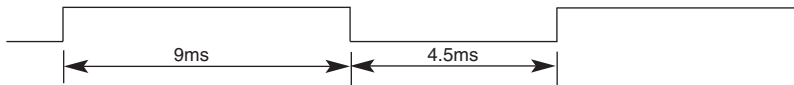
$$\text{Duty ratio} = T1/Tc = 1/3$$

▶ Configuration of frame

- 1st frame

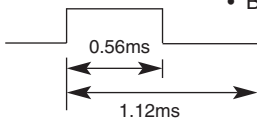


▶ Lead code

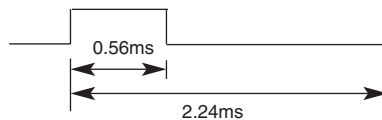


▶ Bit description

- Bit "0"

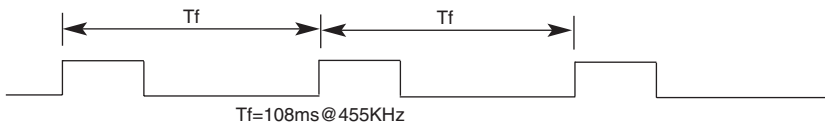


- Bit "1"



▶ Frame interval : Tf

- The waveform is transmitted as long as a key is depressed.



Code(Hexa)	Function	Note
0FH	▲	R/C Button (Menu Navigation, Zoom Hot key)
16H	▼	R/C Button (Menu Navigation)
17H	▶	R/C Button (Increment Value, Select menu item)
12H	◀	R/C Button (Decrement Value, Select menu item)
03H	POWER ON/OFF	PR/C Button (Power On/Off)
07H	SOURCE	R/C Button (D-Sub, DVI)
11H	MENU	R/C Button (Menu On/Off)
0CH	AUTO ADJUST	Discrete IR Code (D-Sub Only)

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