User's Guide

M4224N

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.

LG

Important WARRANTY VOID IF REMOVED 3850TAZ320Y Warranty void if removed.

Temporary noise is normal when powering ON or OFF this device.

WARNING -This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Connecting the stand

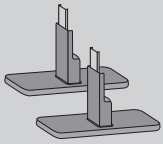
- Only on some models.

1. Take the parts for the stand out of the box and assemble them as shown in the picture.

Parts **First, check if the following parts are all present.**

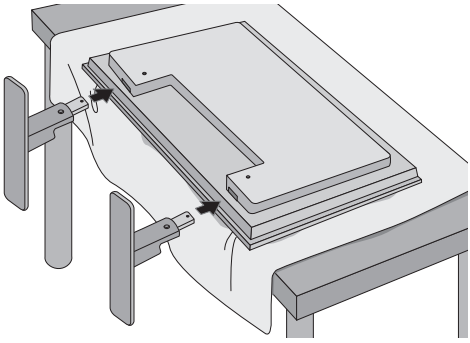


Screws (4)

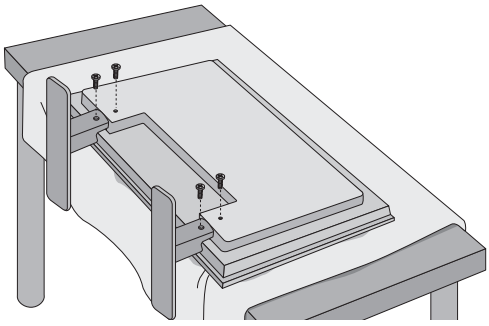


Stand (2)

2. Place a soft cloth on the table and put the product with the screen facing downward. Connect the stand as shown in the following picture.



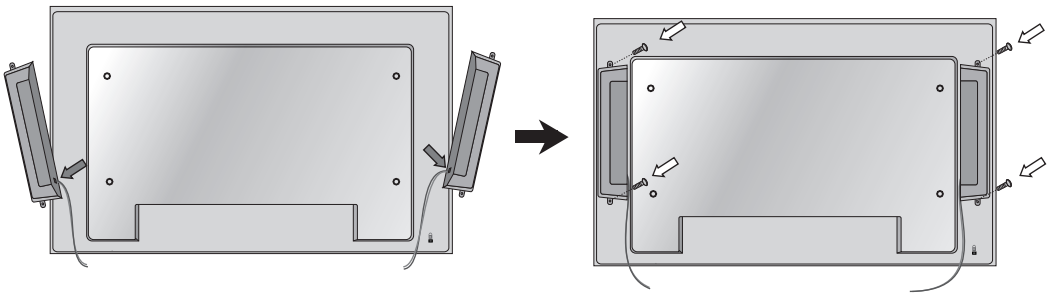
3. Use the screws to secure the stand on the rear side of the product as shown in the diagram.



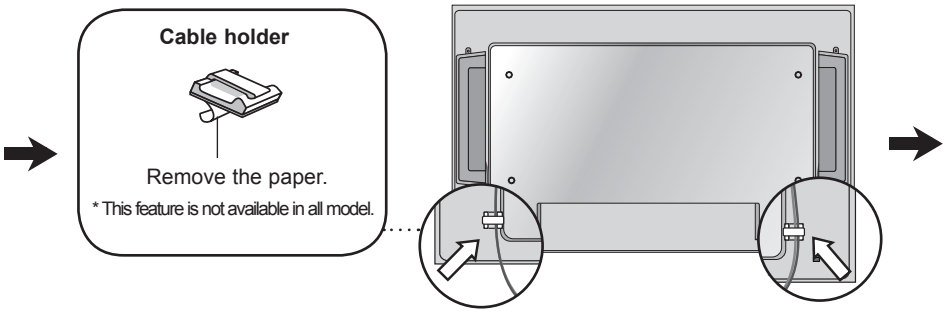
Connecting the Speakers

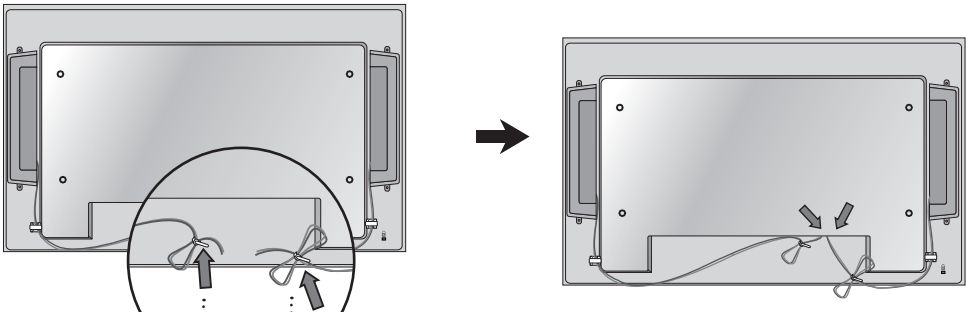
- Only on some models.

Mount the product onto the speaker by using a screw as shown in the following connect the speaker cable.



After installing your speakers, use holders and cable ties to organize the speaker cables.



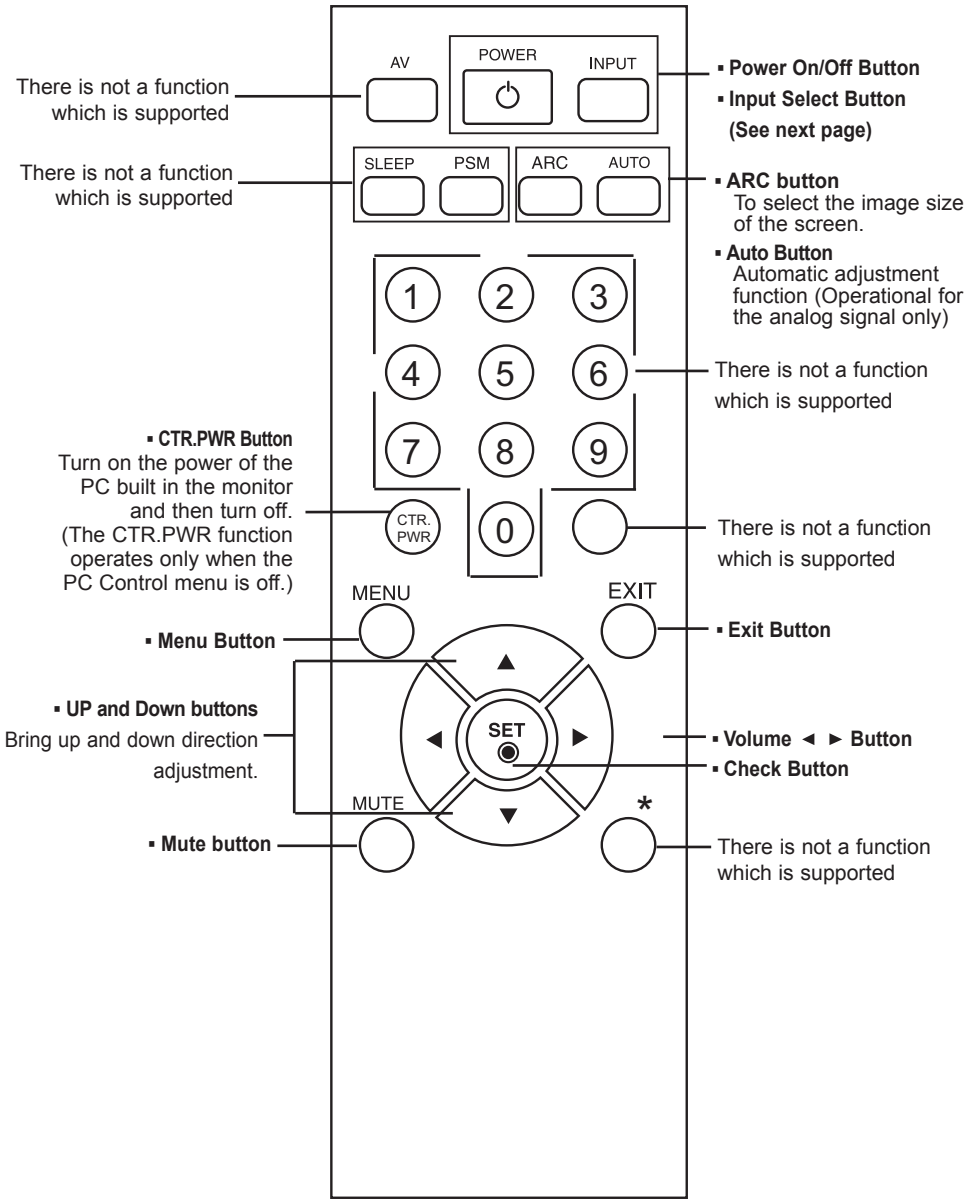


When the speaker is installed.

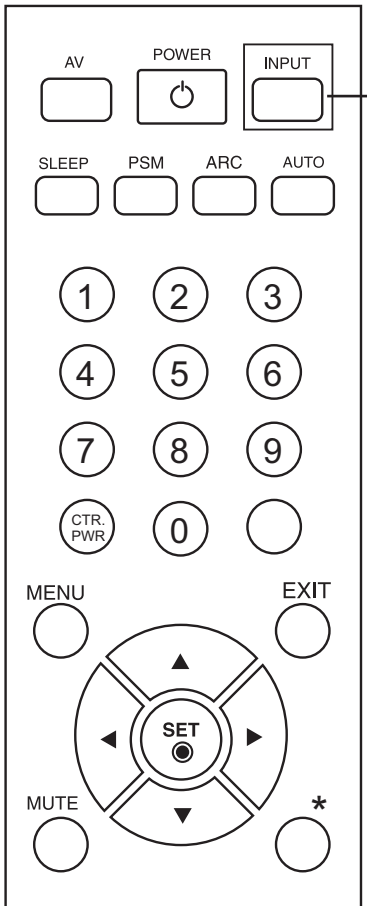
*Connect the input terminal with a proper color match.

Using the Remote Control

Name of the Remote Control Buttons

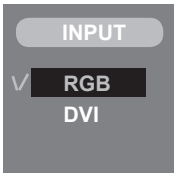


Using the Remote Control

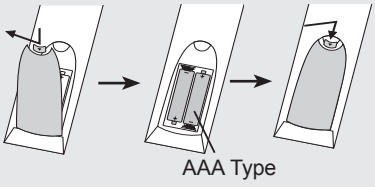


▪ **Input Select Button**

If you press the button once, the following Input Signal Window will appear. Select the signal type you want using the ▼▲ button.



Inserting batteries into remote control.



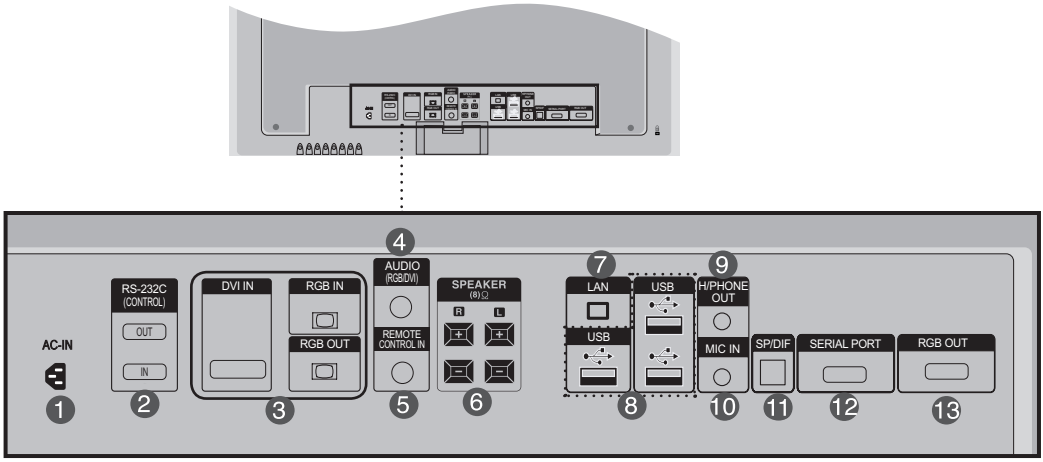
1. **Take out the battery cap.**
2. **Insert the batteries with correct polarity (+/-).**
3. **Close the battery cap.**

▪ 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. **Power Connector : Connect the power cord**
2. **RS-232C Serial Ports (IN, OUT)**
3. **RGB, DVI Ports (IN, OUT)**
4. **PC Sound Jack**
   : Connect the audio cable to the *LINE OUT jack of the PC sound card.
5. **ired Remote Control Port**
6. **Speaker Ports**
7. **LAN Ports**
8. **USB Ports** : Program installation and operation can be done by using USB Memory, USB Hard-Disk, USB CD-ROM, Keyboard (Wired or wireless), Mouse (wired or wireless), etc.
9. **Head Phone out Port**
10. **MIC IN Ports**
11. **Optical Sound out Ports**
12. **Serial Ports**
13. **RGB out Ports**

***LINE OUT**

A terminal used to connect to the speaker including a built-in amplifier (Amp). Make sure that the connecting terminal of the PC sound card is checked before connecting. If the Audio Out of PC sound card has only Speaker Out, reduce the PC volume.

If the Audio Out of the PC sound card supports both Speaker Out and Line Out, convert to Line Out using the card jumper of the program (Refer to the Sound Card Manual).

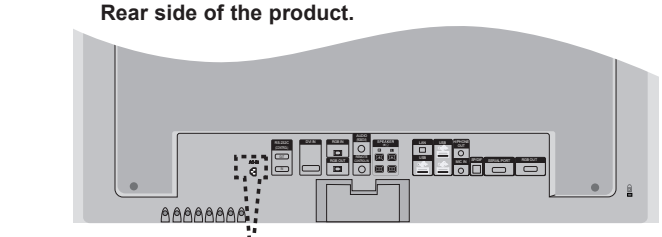
Connecting to External Devices

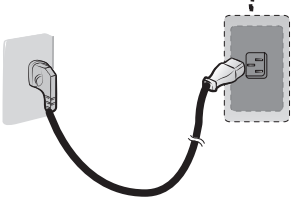
When Connecting to your Built in PC

When connecting with the DVI signal input

1.

Rear side of the product.





Connect the power cord.

2. **Turn on power by pressing the power button on the product.**



Power button

3. **Select an input signal.**

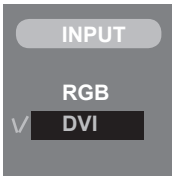
Press the INPUT button on the remote control to select the input signal.

INPUT → ▼▲ → SET

Or, press the SOURCE button at the back side of the product.

SOURCE → ▼▲ → AUTO/SET

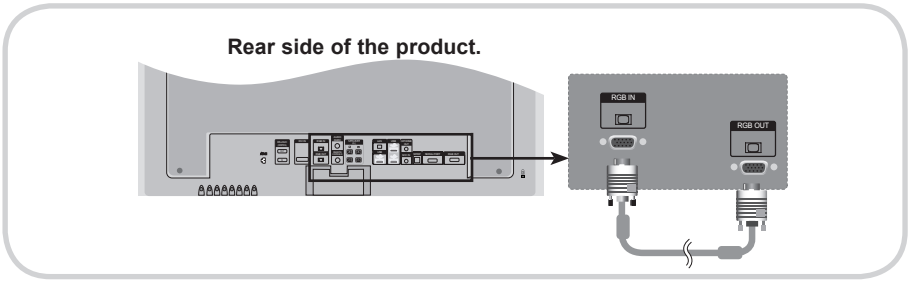
▪ Select **DVI** : DVI Digital signal.



Connecting to External Devices

When connecting with the D-Sub signal input cable.

1.



2.

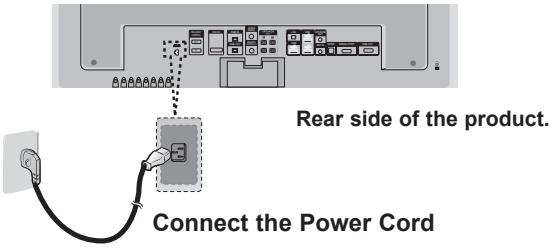
Connect the Audio Cable



Rear side of the product.

Rear side of the product.

3.



Rear side of the product.

Connect the Power Cord

* User must use shielded signal interface cables (D-sub 15 pin cable, DVI cable) with ferrite cores to maintain standard compliance for the product.

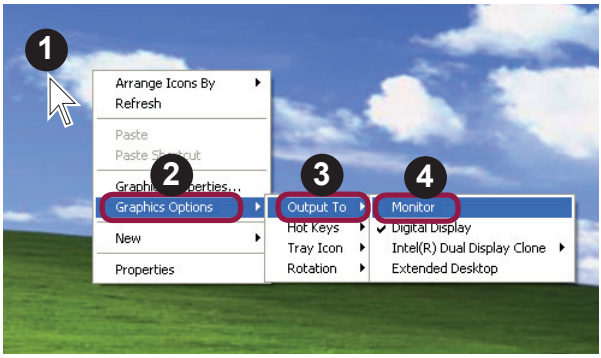
4. **Turn on power by pressing the power button on the product.**



Power button

Connecting to External Devices

5.



1. Move the mouse pointer to an empty area on the Windows screen (with no icons or task bars) and click the right mouse button.
2. When the pop-up menu appears, click the **'Graphics Options'** menu.
3. click the **'Output To'** menu.
4. click the **'Monitor'** menu.

6.

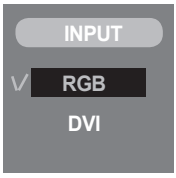
Select an input signal.
Press the INPUT button on the remote control to select the input signal.

INPUT → ▼▲ → SET

Or, press the SOURCE button at the back side of the product.

SOURCE → ▼▲ → AUTO/SET

When connecting with a D-Sub signal input cable.
- Select **RGB** : 15-pin D-Sub analog signal.



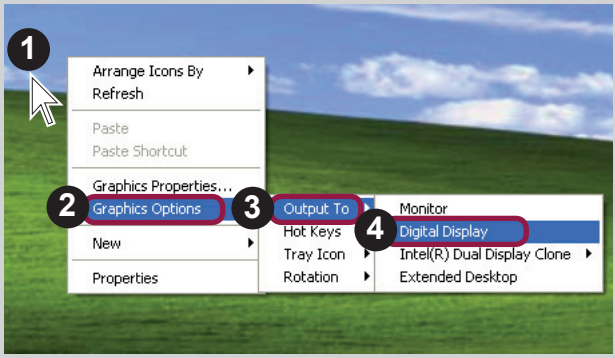
Note

- **How to connect to two computers.**
  Connect the signal cables (DVI and D-Sub) to each computer.
  Press the INPUT button in a remote control to select the computer to use.
- **Directly connect to a grounded power outlet on the wall or a power bar with a ground wire.**

Connecting to External Devices

*** In order to convert the RGB signal to the DVI signal**

1.



1. Move the mouse pointer to an empty area on the Windows screen (with no icons or task bars) and click the right mouse button.
2. When the pop-up menu appears, click the **'Graphics Options'** menu.
3. Click the **'Output To'** menu.
4. Click the **'Digital Display'** menu.

2. Select an input signal.

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

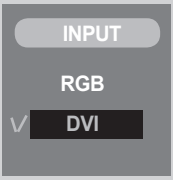
INPUT → ▼▲ → SET

Or, press the SOURCE button at the back side of the product.

SOURCE → ▼▲ → AUTO/SET

When connecting with a DVI signal input cable.

- Select **DVI** : DVI Digital signal.



Connecting to External Devices

When Connecting to your PC

1.

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.

(B) When connecting with the DVI signal input cable.



Rear side of the product.

PC



Rear side of the product.

PC

* User must use shielded signal interface cables (D-sub 15 pin cable, DVI cable) with ferrite cores to maintain standard compliance for the product.

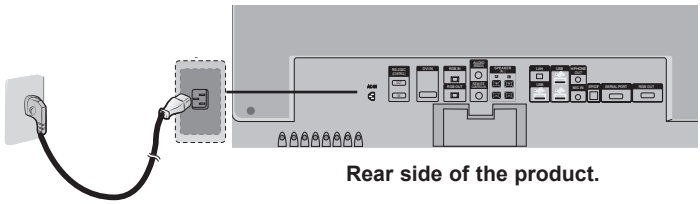
2 Connect the Audio cable.



Rear side of the product.

PC

3 Connect the power cord.



Rear side of the product.

Connecting to External Devices

2.

(1) Turn on power by pressing the power button on the product.



(2) Turn on the PC.

3.

Select an input signal.

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

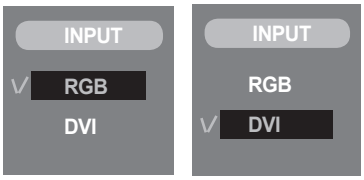
INPUT → ▼▲ → SET

Or, press the SOURCE button at the back side of the product.

SOURCE → ▼▲ → AUTO/SET

(A) When connecting with a D-Sub signal input cable.
- Select **RGB** : 15-pin D-Sub analog signal.

(B) When connecting with a DVI signal input cable.
- Select **DVI** : DVI Digital signal.



Note

- **How to connect to two computers.**
  Connect the signal cables (DVI and D-Sub) to each computer.
  Press the INPUT button in a remote control to select the computer to use.
- **Directly connect to a grounded power outlet on the wall or a power bar with a ground wire.**

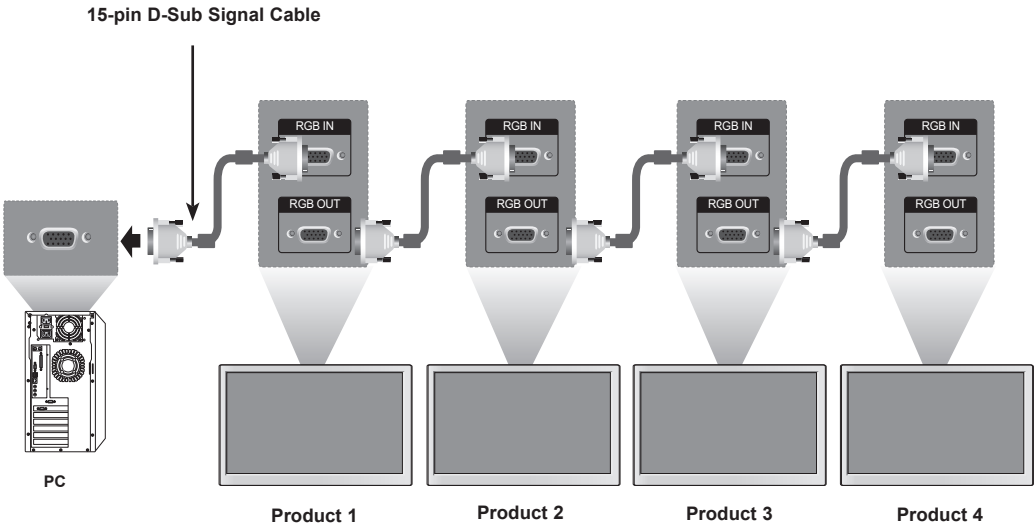
Connecting to External Devices

Watching RGB Outputs

Use this function when displaying ANALOG RGB inputs of a PC to the other product.

- **To use different products connected to each other**

  Connect one end of the signal input cable(15-pin D-Sub Signal Cable) to the **RGB OUT** connector of **product 1** and connect the other end to the RGB IN connector of other products.

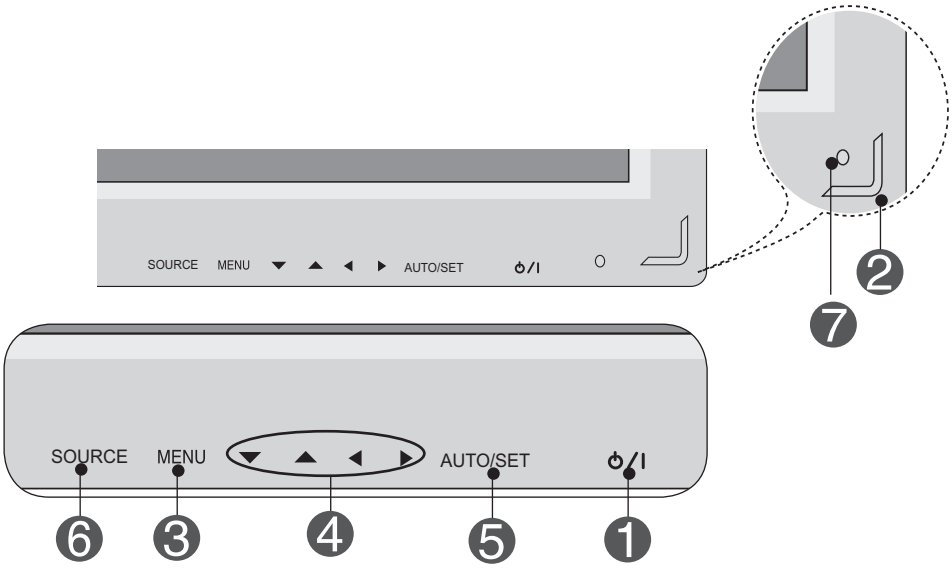


Note

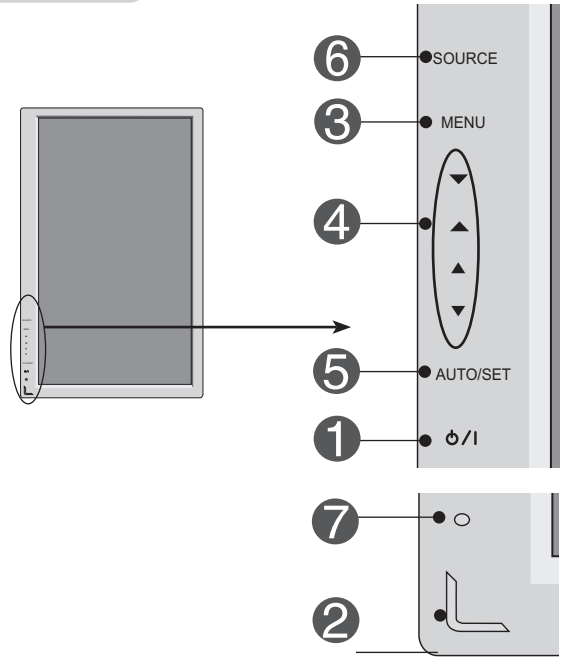
- When multi-connecting in/out cascade format, cables to be less damaged are recommended. We recommend that you should use cable distributor.

Selecting and Adjusting the Screen

Name of the Buttons in the Screen Adjustment Unit



Pivot model Only



Selecting and Adjusting the Screen

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 blue when the display operates normally(on mode). If the display is in sleep (Power 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

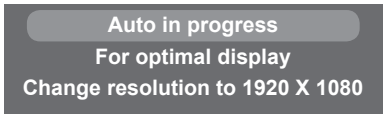
- Use this button to select an icon or adjust the setting in the OSD screen.

5 AUTO/SET Button

If the resolution is 1920X1080 (RGB Mode)



If the resolution is not 1920X1080 (RGB Mode)



6 SOURCE Button

- Select the input signal

DVI (Digital signal) ⟷ RGB(Analog signal)

Digital signal and Analogue signal can't be outputted at the same time so when transferring the source connect the connector and then turn on the power.

7 IR Receiver

- The unit that receives the signal from the remote control.

Selecting and Adjusting the Screen

OSD Menu

Icon	Function Description
 PICTURE	**Adjusts screen brightness, contrast and color that you prefer.**
 SOUND	**Adjusts the audio function.**
 TIMER	**Adjust the time function**
 SPECIAL	**Adjusts the screen status according to the circumstances.**
 SCREEN	**Adjusts the screen video.**

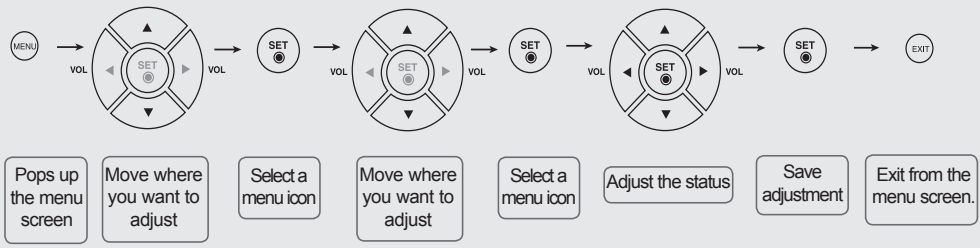
Nota

▪ OSD (On Screen Display)

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

Selecting and Adjusting the Screen

How to adjust the OSD (On Screen Display) screen



▪ **Use the remote control to adjust the OSD 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 **SET** Button.
4. Use the ▼ ▲ ◄ ► Buttons to adjust the item to the desired level.
5. Accept the changes by pressing the **SET** Button.
6. Exit the OSD by pressing the **EXIT** Button.

How to adjust the screen automatically

You need to adjust the screen display when connecting the product to a new computer or changing the mode. Refer to the following section to set an optimal product screen.

Press the AUTO/SET button (**AUTO button** in a remote Control) in the PC analog signal. Then, an optimal screen status will be selected that fits into the current mode.

If adjustment is not satisfactory, you need to adjust screen position, clock and phase in the OSD menu.

If the resolution is 1920X1080 (RGB Mode)

Auto in progress

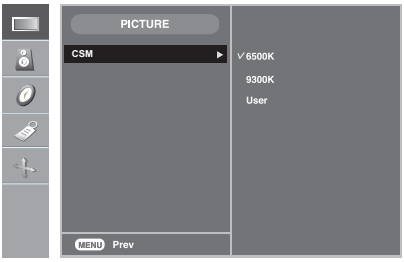
If the resolution is not 1920X1080 (RGB Mode)

Auto in progress
For optimal display
Change resolution to 1920 X 1080

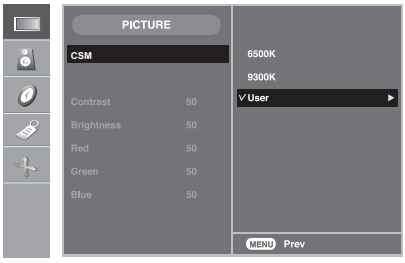
Selecting and Adjusting the Screen

Adjusting Screen Color

CSM



- **6500K/9300K**
  Selecting a factory setting color set.
  6500K: Slightly reddish white.
  9300K: Slightly bluish white.
- **User** : Select this option to use the user-defined settings.



Contrast

To adjust the contrast of the screen.

Brightness

To adjust the brightness of the screen.

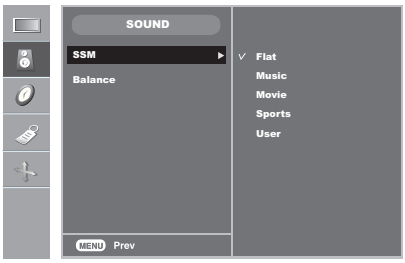
Red / Green / Blue

Set your own color levels.

Selecting and Adjusting the Screen

Adjusting the audio function

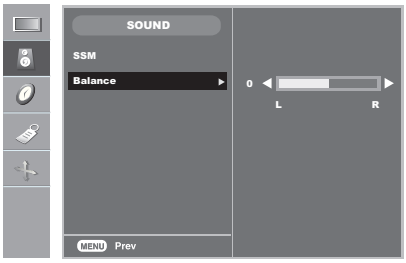
SSM



The best sound tone quality will be selected automatically depending on the video type that you're currently watching.

- **Flat** : The most commanding and natural audio.
- **Music** : Select this option to enjoy the original sound when listening to the music.
- **Movie** : Select this option to enjoy sublime sound.
- **Sports**: Select this option to watch sports broadcasting.
- **User** : Select this option to use the user-defined audio settings.

Balance



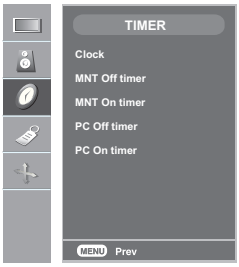
Use this function to balance sound from the left and right speakers.

Note

When connected to your computer and the 'SSM' setting in the audio menu is one of Flat, Music, Movie or Sports, the available menus are Balance.

Selecting and Adjusting the Screen

TIME ID to adjust the time function



Clock

This function is used to set up of current time.
You must set the time correctly before using **On/Off time** function.
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 ► button and then use ▼▲ button to set the hour(00~23).
4) Press ► button and then use ▼▲ button to set the minutes(00~59).
The default value is -- : --.
5) Press the **OK/MENU** button to save.

MNT Off timer/ MNT On timer

The **Off time** automatically switches the set to off mode 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 **MNT Off time** or **MNT On time**.
3) Press the ► button and then use ▼▲ button to select **On** or **Off**.
4) Press the ► button and then use ▼▲ button to set the hour(00~23).
5) Press the ► button and then use ▼▲ button to set the minutes(00~59).
6) Only **On time** function; Press the ► button and then ▼▲ button to adjust volume level.
7) Press the **OK/MENU** button to save.

PC Off timer/ PC On timer

The **Off time** automatically switches the PC to off mode at the pre-set time.
(PC Off/On timer menu is activated only when PC Control in Special menu is off.)
1) Press the **MENU** button and then use ▼▲ button to select the **TIMER** menu.
2) Press the ► button and then use ▼▲ button to select **PC Off time** or **PC On time**.
3) Press the ► button and then use ▼▲ button to select **On** or **Off**.
4) Press the ► button and then use ▼▲ button to set the hour(00~23).
5) Press the ► button and then use ▼▲ button to set the minutes(00~59).
6) Press the **OK/MENU** button to save.

Note

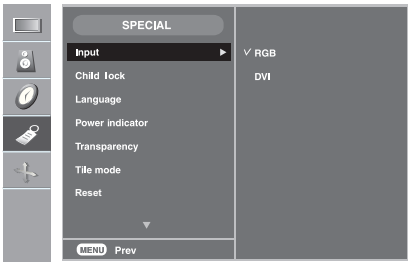
- Once the **On** or **Off** time is set, these functions operate daily at the preset time.
- **Off time** function overrides **On time function** if they are set to the same time.
- The set must be in off mode for the **On time** to work.

Selecting and Adjusting the Screen

Selecting the options



Input



If you press the button once, the following Input Signal Window will appear. Select the signal type you want using the ▼▲ button.

Child lock Use the ▼▲ buttons to select **On** or **Off**. The Set can be set up so that it can only be used with the remote control. This feature can prevent unauthorized viewing.
In order to lock the OSD screen adjustment, set the **Child lock** tab to the **'On'** position.
In order to unlock it, do the following :
* Push the **MENU** button on the remote control and set **Child lock** to the **'Off'** position.

Language To choose the language in which the control names are displayed.

Power indicator Use this function to set the power indicator on the front side of the product to **On** or **Off**. If you set **Off**, it will go off. If you set **On** at any time, the power indicator will automatically be turned on.

Transparency To adjust the transparency of the OSD menu screen.

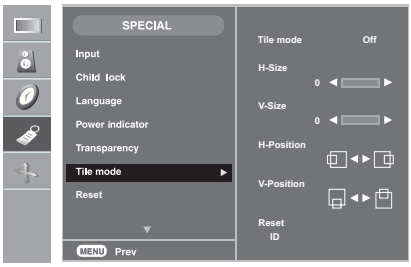
Selecting and Adjusting the Screen

Selecting the options

▪ To use this function

- You can connect the product with several other products and use the Tile mode function.

Tile mode



It is used to enlarge the screen and also used with several products to view screen,

- **▪ Tile mode** Tile mode and choose Tile alignment and set the ID of the current product to set location.
- **▪ H Size** Adjust the horizontal size of the screen taking into account the size of the bezel.
- **▪ V Size** Adjust the vertical size of the screen taking into account the size of the bezel.
- **▪ H-Position** Adjust the horizontal position of the screen taking into account the size of the bezel.
- **▪ V-Position** Adjust the vertical position of the screen taking into account the size of the bezel.
- **▪ Reset** Function to initialize and release Tile. All Tile setting are released when selecting. Tile recall and the screen returns to Full screen.
- **▪ ID** Select the location of the Tile by setting an ID.

Selecting and Adjusting the Screen

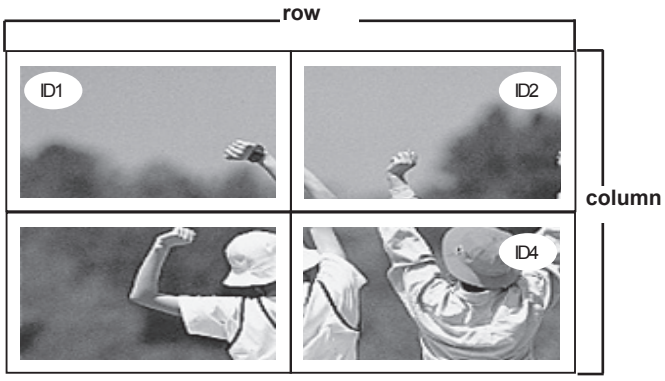
Selecting the options

▪ **Tile mode**

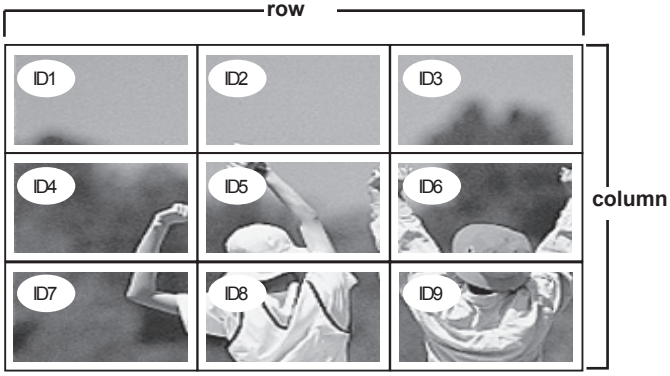
- Tile mode : row x column (r = 1, 2, 3, 4 c = 1, 2, 3, 4)
- 4 x 4 available.
- Configuration of an integration screen is also available as well as configuration of one by one Display.



- Tile mode (product 1 ~ 4) : r(2) x c(2)



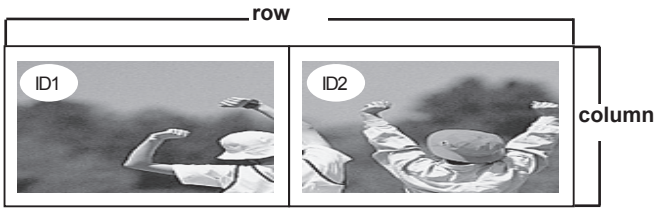
- Tile mode (product 1 ~ 9) : r(3) x c(3)



Selecting and Adjusting the Screen

Selecting the options

▪ **Tile mode (product 1 ~ 2) : r(2) x c(1)**



Reset Use this function to reset the product to the factory default. However, language selection and PC Control selection will not be initialized.

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.

PC Control You can change the power setting of the PC built in the monitor.

On : Turn on/off both the monitor and the built-in PC.

Off : Turn on/off the built-in PC only.

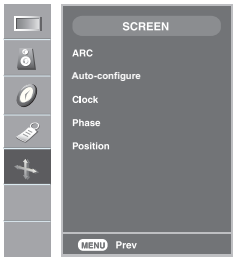
* How to turn on or off the PC built in the monitor after setting it to Off?

(a) Press the power button while the SOURCE button is being pressed on the rear side of the monitor.

(b) Or, press the CTR.PWR button at the remote control.

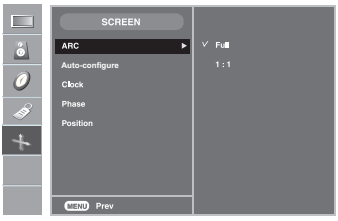
Selecting and Adjusting the Screen

Adjusting Screen CLOCK/PHASE and Position



ARC

To select the image size of the screen.
(1:1 menu are not supported over 1920 X 1080 resolution)



Auto-configure

This button is for the automatic adjustment of the screen position, clock and phase. This function is suitable for analog signal input only.

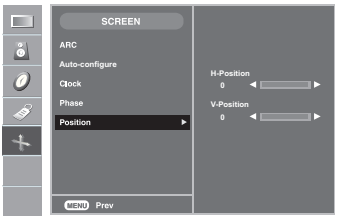
Clock

To minimize any vertical bars or stripes visible on the screen background. The horizontal screen size will also change. This function is suitable for analog signal input 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 suitable for analog signal input only.

Position



To adjust position of the screen.
This function is suitable for analog signal input only.

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.
● **Power is on, power indicator is green but the screen appears extremely dark.**	▪ Adjust brightness and contrast again.
● **Is the power indicator amber?**	▪ If the product is in power saving mode, move the mouse or press any key.
● **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 : 1920 X 1080 @60Hz DVI : 1920 X 1080 @60Hz
● **Does the 'Power saving mode' On DVI message appear?**	▪ Connect the RGB cable, and then change the input source to 'RGB'. And then, press the MENU button to set the PC Control value of the SPECIAL menu to 'On'. Disconnect RGB cable, and turn off the power, and then turn on the power again.
● **Does the 'Check signal cable' message appear?**	▪ The signal cable between PC and product is not connected. Check the signal cable. ▪ Press the 'INPUT' menu in the remote Control to check the input signal.
● **Did you check the INPUT Key?**	▪ Press the 'INPUT' menu in the remote Control to check the input signal.

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 at the RGB mode?**	▪ 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 at the RGB mode?**	▪ 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 at the RGB mode.**	▪ 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 at the RGB mode.**	▪ The proper input signal is not connected to the signal port. Connect the signal cable that matches with the source input signal.

The audio function does not work.

● **No sound?**	▪ See if the audio cable is connected properly. ▪ Adjust the volume. ▪ See if the sound is set properly.
● **Sound is too dull.**	▪ Select the appropriate equalize sound.
● **Sound is too low.**	▪ Adjust the volume.

Troubleshooting

'Child lock on' message appears.

● **The 'Child lock on' message appears when pressing the Menu button.**	Push the **MENU** button on the remote control and set **Child lock** to the b position.

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 screensaver function.

Screen color is abnormal.

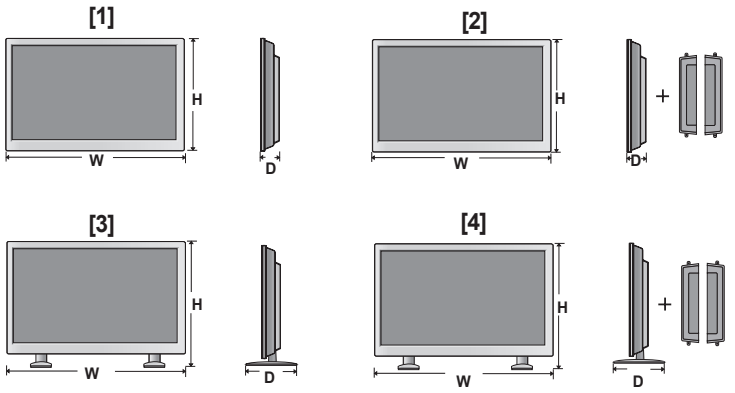
● **Screen has poor color resolution (16 colors).**	▪ Set the number of colors to more than 32 bits (true color) Select Control Panel ─ Display ─ Settings ─ Color Table menu in Windows.
● **Do black spots appear on the screen?**	▪ Several pixels (red, green, white or black color) may appear on the screen, which can be attributable to the unique characteristics of the LCD panel. It is not a malfunction of the LCD.

The operation does not work normally.

● **The power suddenly turned off.**	▪ Is the sleep timer set? ▪ Check the power control settings. Power interrupted. ▪ "CAUTION! FAN STOP!" If the power is turned off after this message appears, it means that the fan is out of order. In this case, contact your local service center.

Specifications

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

LCD Panel	42.02 inches (106.73 cm) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Anti-Glare coating Visible diagonal size: 106.73 cm 0.4845 mm x 0.4845 mm (Pixel Pitch)
Power	**Rated Voltage** AC 100-240V~ 50/60Hz 3.0A **Power Consumption** On Mode : 300W Typ.(With PC), 240W Typ.(Only Monitor) Stand-by(Off Mode) : ≤ 1W(MNT OFF, PC OFF) (Remote Comtrol DC OFF)
Dimensions &Weight	 **Width x Height x Depth** **[1]** 96.7 cm (38.07 inches) x 55.98 cm (22.04 inches) x 12.37 cm (4.87 inches) **[2]** 96.7 cm (38.07 inches) x 55.98 cm (22.04 inches) x 12.37 cm (4.87 inches) **[3]** 96.7 cm (38.07 inches) x 63.50 cm (25.00 inches) x 25.85 cm (10.18 inches) **[4]** 96.7 cm (38.07 inches) x 63.50 cm (25.00 inches) x 25.85 cm (10.18 inches) **Net** **[1]** 20.0 kg (44.09 lbs) **[2]** 22.6 kg (49.82 lbs) **[3]** 23.4 kg (51.59 lbs) **[4]** 26.0 kg (57.32 lbs)

NOTE

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

Specifications

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

Video Signal	**Max. Resolution**	RGB : 1920 X 1080 @60Hz DVI : 1920 X 1080 @60Hz - It may not be supported depending on the OS or video card type.
	Recommended Resolution	RGB : 1920 X 1080 @60Hz DVI : 1920 X 1080 @60Hz - It may not be supported depending on the OS or video card type.
	Horizontal Frequency	RGB : 30 - 83 kHz DVI : 30 - 83 kHz
	Vertical Frequency	56 - 60 Hz (RGB / DVI)
	Synchronization Type	Separate/Composite/Digital
Input Connector		15-pin D-Sub type, DVI (Digital), RS-232C
Environmental Conditions	**Operational Condition** **Storage Condition**	Temperature: 0˚C ~ 40˚C , Humidity: 10% ~ 80% Temperature: -20˚C ~ 60˚C , Humidity: 5% ~ 95%

*** Applicable only for models that support the speakers**

Audio	RMS Audio Output	10W+10W(R+L)
	Input Sensitivity	0.7Vrms
	Speaker Impedance	8Ω

NOTE

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

Specifications

PC Mode – Preset Mode

	Preset mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	640 x 480	31.469	59.94
2	800 x 600	37.879	60.317
3	1024 x 768	48.363	60
4	1280 x 1024	63.981	60.02
5	1920 x 1080	67.5	60

Power Indicator

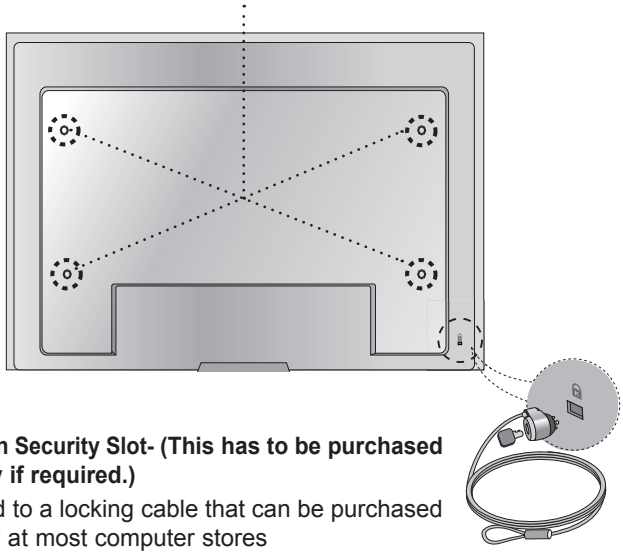
Mode	Product
On Mode	Blue
Sleep Mode	Amber
Off Mode	-

Specifications

VESA wall mounting

Connected to another object (stand type and wall-mounted type.) This product accepts a VESA-compliant mounting interface pad.- (**This has to be purchased separately if required.**)

For further information, refer to the VESA Wall Mounting Instruction Guide.



Kensington Security Slot- (This has to be purchased separately if required.)

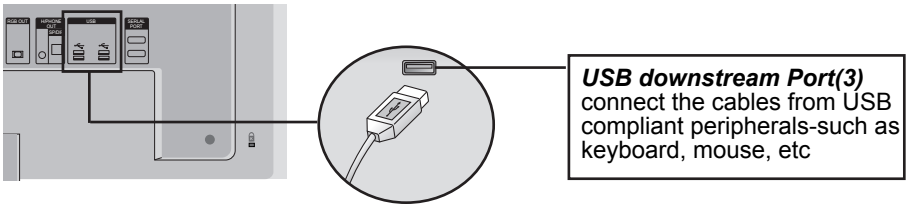
Connected to a locking cable that can be purchased separately at most computer stores

Specifications

Connecting the USB(Universal Serial Bus) Cable

"USB (Universal Serial Bus)" is an innovation in connecting your different desktop peripherals conveniently to your computer. By using the USB, you will be able to connect your mouse, keyboard, and other peripherals to your display instead of having to connect them to your computer. This will give you greater flexibility in setting up your system. USB allows you to connect a chain of up to 120 devices on a single USB port; and you can "hot" plug (attach them while the computer is running) or unplug them while maintaining the Plug and the Plug auto detection and configuration. This display has an integrated BUS-powered USB hub, allowing up to 2 other USB devices to be attached it.

1. Connect the upstream port of the display to the downstream port of the USB compliant PC or another hub using the USB cable.
2. Connect the USB compliant peripherals to the downstream ports of the display.



3. The monitor's USB terminal supports USB 2.0 and High Speed cables.

	High Speed	Full Speed	Low Speed
Data Rate	480Mbps	12Mbps	1.5Mbps
Power Consumption	2.5W (Max,each Port)	2.5W (Max,each Port)	2.5W (Max,each Port)

NOTE
- To activate the USB hub function, the display must be connected to a USB compliant PC(OS) or another hub with the USB cable(enclosed).
- When connecting the USB cable, check that the shape of the connector at the cable side matches the shape at the connecting side.
- Even if the display is in a power saving mode, USB compliant devices will function when they are connected the USB ports(both the upstream and downstream) of the display.

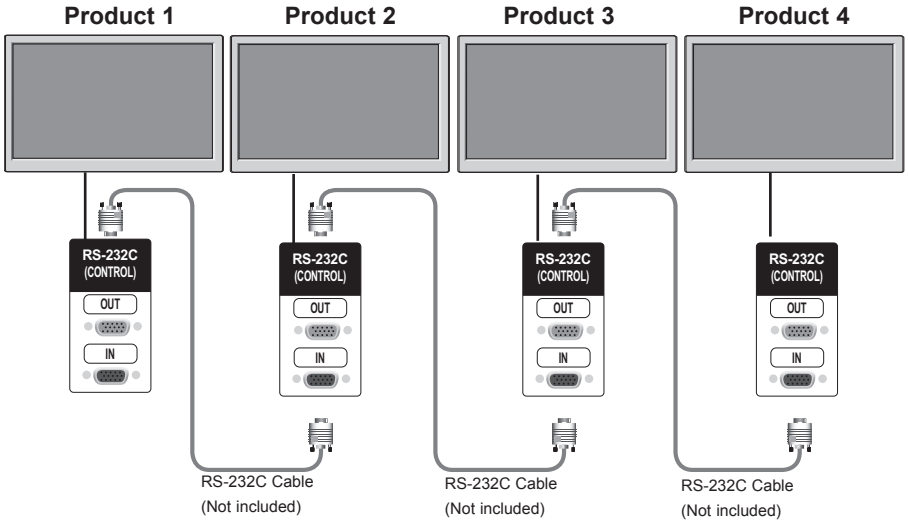
Controlling the Multiple Product

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

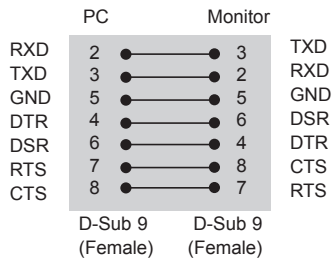
Connect the RS-232C cable as shown in the picture.

* 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.

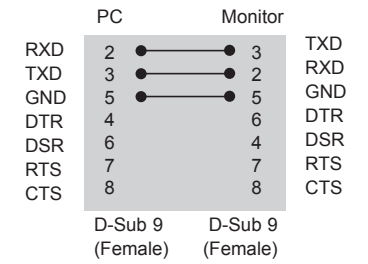


RS-232C Configurations

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



3-Wire Configurations (Not Standard)



Communication Parameter

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

Controlling the Multiple Product

Command Reference List

	COMMAND1	COMMAND1	DATA(Hexa)
01. Power	k	a	00H - 01H
02. Main Input Select	k	b	07H, 09H
03. Aspect Ratio	k	c	08H, 09H
04. Screen Mute	k	d	00H - 01H
05. Volume Mute	k	e	00H - 01H
06. Volume Control	k	f	00H - 64H
07. Contrast	k	g	00H - 64H
08. Brightness	k	h	00H - 64H
09. OSD Select	k	i	00H - 01H
10. Remote On/Off	k	m	00H - 01H
11. Balance	k	t	00H - 64H
12. Select Color Temp	k	u	00H - 02H
13. Auto Configure	j	u	01H
14. Red Gain Adjust	j	w	00H - 64H
15. Green Gain Adjust	j	y	00H - 64H
16. Blue Gain Adjust	j	z	00H - 64H
17. Tiling Mode	d	d	00H - 44H
18. Tile H Position	d	e	00H - 64H
19. Tile V Position	d	f	00H - 64H
20. Tile H Size	d	g	00H - 64H
21. Tile V Size	d	h	00H - 64H
22. Tile ID Set	d	i	00H - 10H
23. Temperature Check	d	n	FFH
24. Inverter Adjust	d	r	00H - 01H
25. PC Power On/Off	d	s	00H - 01H
26. PC Control On/Off	d	t	00H - 01H
27. Input Select	x	b	06H, 08H

Protocollo trasmissione / ricezione

Transmission

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

* [Command 1]: First command. (k)
* [Command 2]: Second command. (a ~ u)
* [Set ID]: You can adjust the set ID to choose desired product ID number in Special menu. Adjustment range is 1 ~99. When selecting Set ID '0', every connected set is controlled. Set ID is indicated as decimal (1~255) on menu and as Hexa decimal (0x0~0x64) on transmission/receiving protocol.
* [DATA]: To transmit command data. Transmit 'FF' data to read status of command.
* [Cr]: Carriage Return ASCII code '0x0D'
* [ ]: ASCII code Space (0x20)'

OK Acknowledgement

[Command2][ ][Set ID][ ][OK][Data][x]

* 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

[Command2][ ][Set ID][ ][NG][Data][x]

* The Product transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data 1: Illegal Code
2: Not supported function
3: Wait more time

Controlling the Multiple Product

Protocollo trasmissione / ricezione

01. Power On(Command : a)

►To control Power On/Off of the Set.

Transmission

[k][a][ ][Set ID][ ][Data][Cr]

Data 0 : Power Off 1 : Power On ff: Read Status

Acknowledgement

[a][ ][Set ID][ ][OK][Data][x]

►To show the status of Power On/Off.

Transmission

[k][a][ ][Set ID][ ][FF][Cr]

Data 0 : Power Off 1 : Power On ff: Read Status

Acknowledgement

[a][ ][Set ID][ ][OK][Data][x]

* The Product transmits ACK (Riconoscimento) 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 omputer.

02. Main input Select(Command : b) (Main Picture Input)

►To select input source for the Set.
You can also select an input source using the INPUT button on the remote control.

Transmission

[k][b][ ][Set ID][ ][Data][Cr]

Data 7 : RGB
9 : DVI

Acknowledgement

[b][ ][Set ID][ ][OK][Data][x]

Protocollo trasmissione / ricezione

03. Aspect Ratio(Command : c) (Main picure format)

► To adjust the screen format.
You can also adjust the screen format using the ARC (Aspect Ratio Control) button on remote control or in the Screen menu.

Transmission

[k][c][ ][Set ID][ ][Data][Cr]

Data 8 : Full mode
9 : 1:1 (Operates only if current resolution is less than recommended resolution.)

Acknowledgement

[c][ ][Set ID][ ][OK][Data][x]

04. Screen Mute(Command : d)

► To select screen mute on/off.

Transmission

[k][d][ ][Set ID][ ][Data][Cr]

Data 0 : Screen mute off (Picture on)
1 : Screen mute on (Picture off)

Acknowledgement

[d][ ][Set ID][ ][OK][Data][x]

Protocollo trasmissione / ricezione

05. Volume Mute(Command : e)

► To control On/Off of the Volume Mute.

Transmission

[k][e][ ][Set ID][ ][Data][Cr]

Data 0 : Volume Mute On (Volume Off)
1 : Volume Mute Off (Volume On)

Acknowledgement

[e][ ][Set ID][ ][OK][Data][x]

Data 0 : Volume Mute On (Volume Off)
1 : Volume Mute Off (Volume On)

06. Volume Control(Command : f)

► To adjust Volume.

Transmission

[k][f][ ][Set ID][ ][Data][Cr]

Data Min : 00H ~ Max : 64H
(Hexadecimal code)

Acknowledgement

[f][ ][Set ID][ ][OK][Data][x]

Data Min : 00H ~ Max : 64H

· Refer to 'Real data mapping' page RS-7.

Protocollo trasmissione / ricezione

07. Contrast(Command : g)

► To adjust screen contrast.
You can also adjust the contrast in the Picture menu.

Transmission

[k][g][ ][Set ID][ ][Data][Cr]

Data Min : 00H ~ Max : 64H
·Refer to 'Real data mapping' as shown below.

Acknowledgement

[g][ ][Set ID][ ][OK][Data][x]

* Real data mapping
0 : Step 0
:
A : Step 10
:
F : Step 15
10 : Step 16
:
64 : Step 100

08. Brightness(Command : h)

To adjust screen brightness.
You can also adjust the brightness in the Picture menu.

Transmission

[k][h][ ][Set ID][ ][Data][Cr]

Data Min : 00H ~ Max : 64H
· Refer to 'Real data mapping' as shown below.

Acknowledgement

[h][ ][Set ID][ ][OK][Data][x]

* Real data mapping
0 : Step
:
A : Step 10
:
F : Step 15
10 : Step 16
:
64 : Step 100

Protocollo trasmissione / ricezione

09. OSD Select(Command : l)

► To control OSD on/off to the set when RS-232C Commands are transmitted.

Transmission

[k][l][ ][Set ID][ ][Data][Cr]

Data 0 : OSD Off 1 : OSD On

Acknowledgement

[l][ ][Set ID][ ][OK][Data][x]

Data 0 : OSD Off 1 : OSD On

10. Remote On/Off (Command : m)

► Lock the buttons at the rear side of the monitor and the button at the remote control.

Transmission

[k][m][ ][Set ID][ ][Data][Cr]

Data 0 : Off 1 : On

Acknowledgement

[m][ ][Set ID][ ][OK][Data][x]

Data 0 : Off 1 : On

11. Balance (Command : t)

► To adjust the sound balance.

Transmission

[k][t][ ][Set ID][ ][Data][Cr]

Data Min : 00H ~ Max : 64H

32H : Center 00H : Left 64H : Right

Acknowledgement

[t][ ][Set ID][ ][OK][Data][x]

Data Min : 00H ~ Max : 64H

32H : Center 00H : Left 64H : Right

Protocollo trasmissione / ricezione

12. Select Color Temp (Command : u)

► To adjust the screen color temperature.

Transmission

[k][u][ ][Set ID][ ][Data][Cr]

Data 0 : User

1 : 9300K
2 : 6500K

Acknowledgement

[u][ ][Set ID][ ][OK][Data][x]

Data 0 : User

1 : 9300K
2 : 6500K

13. Auto Configure(Command: j u)

► To adjust picture position and minimize image shaking automatically. it works only in RGB(PC) mode.

Transmission

[j][u][ ][Set ID][ ][Data][Cr]

Data 1 : To set

Acknowledgement

[u][ ][Set ID][ ][OK][Data][x]

Protocollo trasmissione / ricezione

14. Red Gain Adjust (Command: j w)
► To adjust Red color level.

Transmission

[j][w][ ][Set ID][ ][Data][Cr]

Data Min : 00H ~ Max : 64H

Acknowledgement

[w][ ][Set ID][ ][OK][Data][x]

* When it is executed with the 6500K or 9300K selected, it is automatically changed to the USER.

15. Green Gain Adjust (Command: j y)
► To adjust Green color level.

Transmission

[j][y][ ][Set ID][ ][Data][Cr]

Data Min : 00H ~ Max : 64H

Acknowledgement

[y][ ][Set ID][ ][OK][Data][x]

* When it is executed with the 6500K or 9300K selected, it is automatically changed to the USER.

16. Blue Gain Adjust (Command: j z)
► To adjust Blue color level.

Transmission

[j][z][ ][Set ID][ ][Data][Cr]

Data Min : 00H ~ Max : 64H

Acknowledgement

[z][ ][Set ID][ ][OK][Data][x]

* When it is executed with the 6500K or 9300K selected, it is automatically changed to the USER.

Protocollo trasmissione / ricezione

17. Tiling Mode (Command :d d)

► Change a Tiling Mode..

Transmission

[d][d][ ][Set ID][ ][Data][Cr]

Data	Description
00	Tiling mode is off.
12	1 x 2 mode(column x row)
13	1 x 3 mode
14	1 x 4 mode
...	...
44	4 x 4 mode

* The data can not be set to 0X or X0 except 00.

Acknowledgement

[d][ ][00][ ][OK/NG][Data][x]

18. Tile H Position (Command : d e)

► To set the horizontal position.

Transmission

[d][y][ ][Set ID][ ][Data][x]

Data Min : 00H ~ Max : 64H
(Hexadecimal code)

Acknowledgement

[e][ ][Set ID][ ][OK/NG][Data][x]

Protocollo trasmissione / ricezione

19. Tile V Position(Command : d f)

► To set the Vertical position.

Transmission

[d][f][][Set ID][][Data][x]

* The data range is from 00 to 64(in Hex).

Acknowledgement

[f][][Set ID][][OK/NG][Data][x]

20. Tile H Size(Command : d g)

► To set the Horizontal size.

Transmission

[d][g][][Set ID][][Data][x]]

* The data range is from 00 to 64(in Hex).

Acknowledgement

[g][][Set ID][][OK/NG][Data][x]

21. Tile V Size(Command : d h)

► To set the Vertical size.

Transmission

[d][h][][Set ID][][Data][x]

* The data range is from 00 to 64(in Hex).

Acknowledgement

[h][][Set ID][][OK/NG][Data][x]

Protocollo trasmissione / ricezione

22. Tile ID Set (Command : d i)
► To assign the Tile ID for Tiling function.

Transmission

[d][i][][Set ID][][Data][x]

* The data range is from 00 to 10 tile mode. (in Hex).

Acknowledgement

[i][][Set ID][][OK/NG][Data][x]

23. Temperature check (Command : d n)
► To read the inside temperature value.

Transmission

[d][n][][Set ID][][Data][x]

* The data is always FF(in Hex).

Acknowledgement

[n][][Set ID][][OK/NG][Data][x]

Data are 1 byte long in Hex ASCII format.

24. Inverter Adjust (Command : d r)
► To adjust the Inverter.

Transmission

[d][r][][Set ID][][Data][x]

Data 0 : Inverter Off
1 : Inverter On

Acknowledgement

[r][][Set ID][][OK/NG][Data][x]

Protocollo trasmissione / ricezione

25. PC Power On/Off (Command : d s)

► To turn On and Off the built in PC.

Transmission

[d][s][][Set ID][][Data][x]

Data 0 : PC Power Off
1 : PC Power On

Acknowledgement

[s][][Set ID][][OK/NG][Data][x]

*This operates only when 'PC Control' is 'Off'.

26. PC Control On/Off (Command : d t)

► It sets the synchronized power on/off between the built-in PC of the monitor and the monitor.

Transmission

[d][t][][Set ID][][Data][x]

Data 0 : Off
1 : On

Acknowledgement

[t][][Set ID][][OK/NG][Data][x]

27. Input Selection (Command : b) (Main Picture Input)

► To select input source for the Set.
You can also select an input source using the INPUT button on the remote control.

Transmission

[x][b][ ][Set ID][ ][Data][Cr]

Data 06 : RGB
08 : DVI

Acknowledgement

[b][ ][Set ID][ ][OK][Data][x]

IR Codes

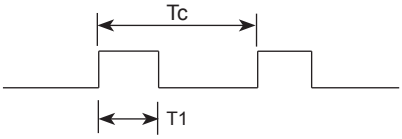
How to connect

► 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

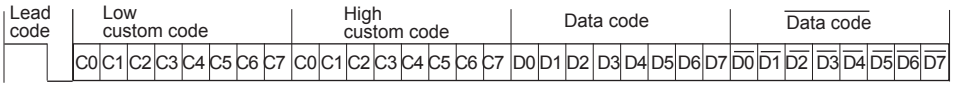


Carrier frequency

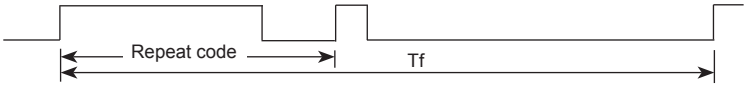
FCAR = 1/Tc = fosc/12
Duty ratio = T1/Tc = 1/3

► **Configuration of frame**

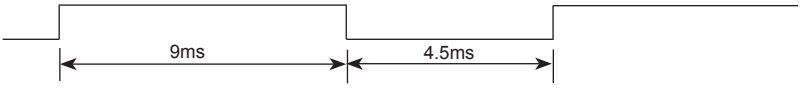
· 1st frame



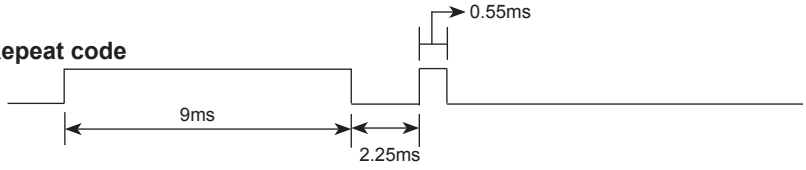
· Repeat frame



► **Lead code**

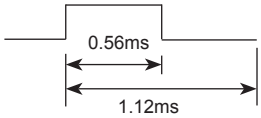


► **Repeat code**

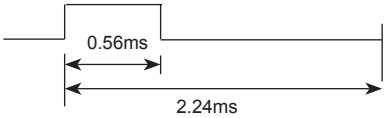


► **Bit description**

· Bit "0"

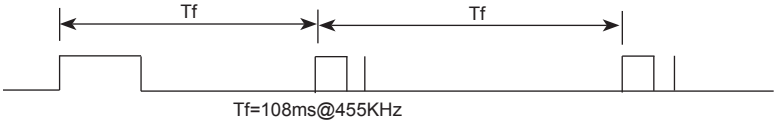


· Bit "1"



► **Frame interval : Tf**

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



IR Codes

Code(Hexa)	Function	Note
00	▲	R/C Button
01	▼	R/C Button
02	VOL(►)	R/C Button
03	VOL(◄)	R/C Button
08	POWER ON/OFF	R/C Button (Power On/Off)
C4	POWER ON	Discrete IR Code(Only Power On)
C5	POWER OFF	Discrete IR Code(Only Power On)
09	MUTE	R/C Button
0B	INPUT	R/C Button
43	MENU	R/C Button
5B	EXIT	R/C Button
44	SET	R/C Button
10	Number Key 0	R/C Button
11	Number Key 1	R/C Button
12	Number Key 2	R/C Button
13	Number Key 3	R/C Button
14	Number Key 4	R/C Button
15	Number Key 5	R/C Button
16	Number Key 6	R/C Button
17	Number Key 7	R/C Button
18	Number Key 8	R/C Button
19	Number Key 9	R/C Button
D5	RGB	Discrete IR Code(Input RGB PC Selection)
C6	DVI	Discrete IR Code(Input DVI Selection)
79	ARC	R/C Button
77	ARC (1:1)	Discrete IR Code(Only 1:1 mode)
AF	AUTO CONFIC	Discrete IR Code

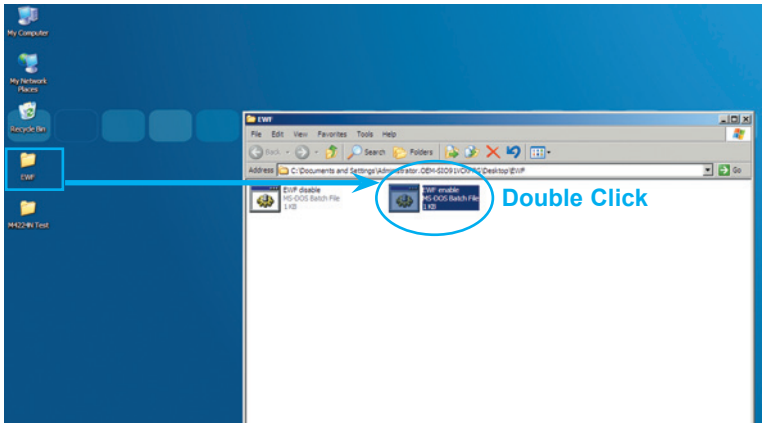
EWF (Enhanced Write Filter) function

Definition

- Write protect function for more than one partition
- This is the function to protect the partition by returning to original condition prior to the installation once rebooted after the data has been recorded or program installed

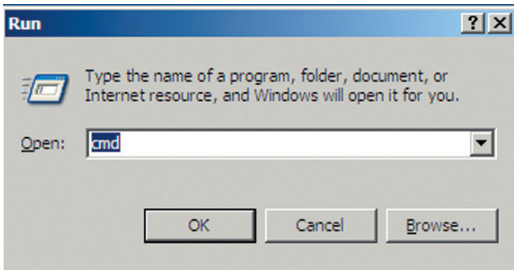
How to set

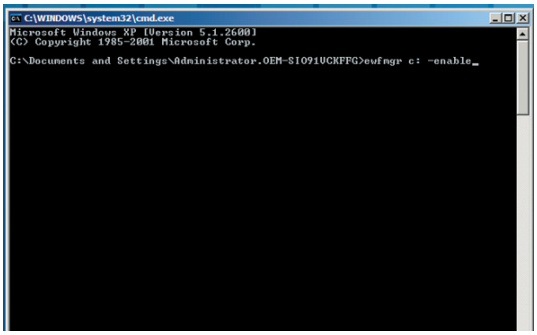
- Double click on the [EWF Enable] file in the [EWF] folder from the desktop and set to protect after auto reboot.



*Setting from DOS mode

Click on [Start] ► [Run] ► [cmd] ► [ewfmgr c: -enable], and then reboot Windows.

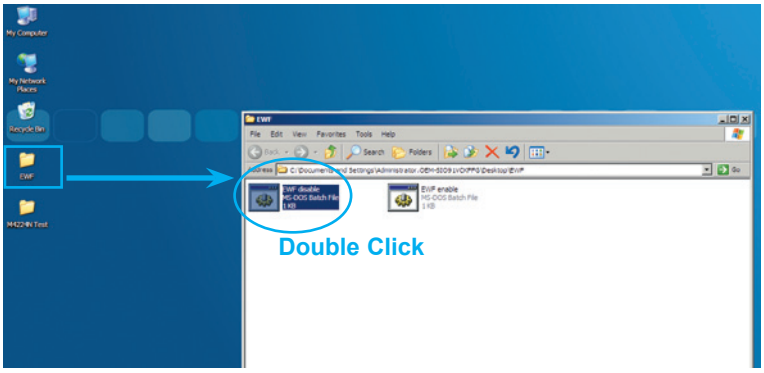




EWF (Enhanced Write Filter) function

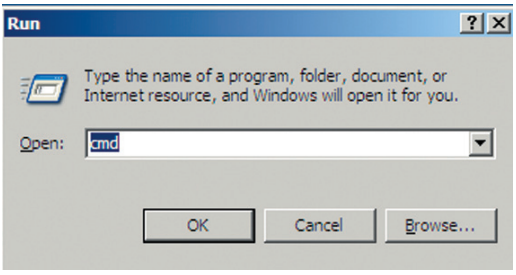
How to cancel

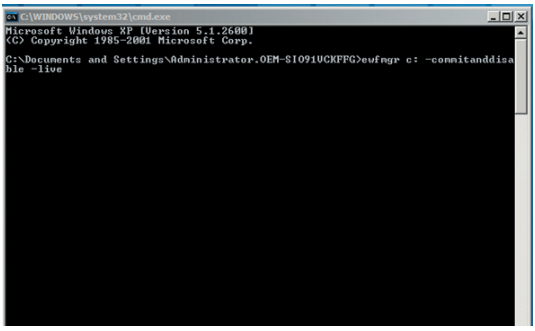
- Double click the [EWF Disable] file in the [EWF] folder, and the DOS Window will be displayed to cancel the protection in 5 seconds.



*Setting from DOS mode

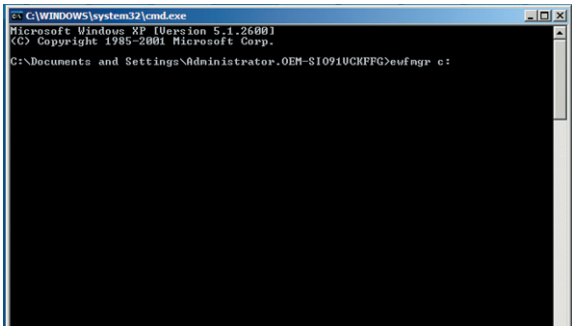
[Start] ► [Run] ► [cmd] ► [-commitanddisable -live]





How to check the current EWF condition

[Start] ► [Run] ► [cmd] ► [ewfmgr c:] ► Will be displayed as Enable or Disable.



Windows backup and recovery using LG Smart Recovery

When Backing up the current OS from Windows

1. Select [Start] ► [LG Smart Recovery]

2. Select 'System Backup' ► Designate back up location to [D:] (Do not select C: as it is where the OS is installed) ► After checking the file content, select 'OK'

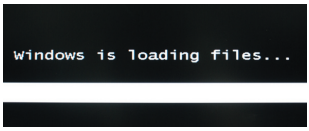


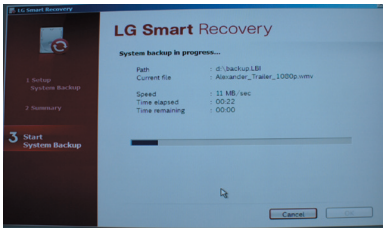




3. Windows will automatically be rebooted ► Enter System Recovery Mode in DOS mode ► System backup will automatically start.







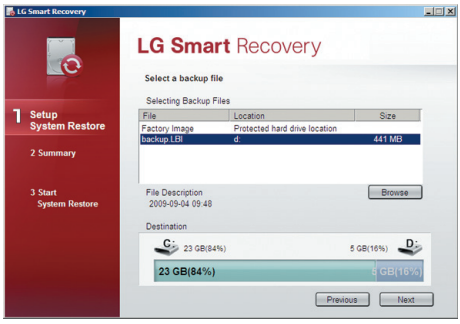
4. When completed, Windows will automatically reboot ► Select 'OK'

Windows backup and recovery using LG Smart Recovery

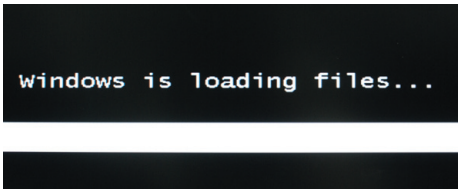
When Restoring the current OS from Windows

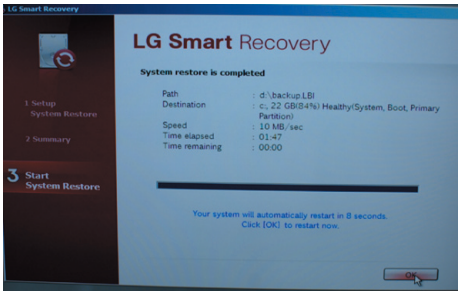
1. Select 'System Restore' ► Select after checking the backup file from LG Smart Recovery
   (Factory image: Initial factory default image)
   (Backup.LBI: User created image)



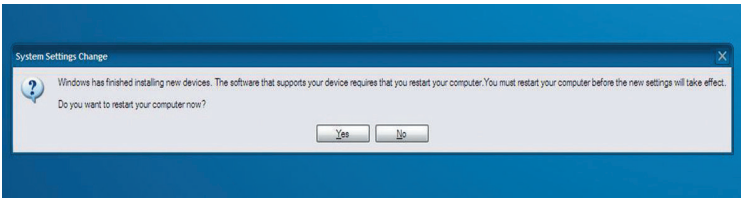


2. The system will automatically reboot and enter Recovery Mode ► System will automatically be restored ► 'Select 'OK'





※ After windows restarts automatically, select on 'Yes' if a screen as shown below appears then restart windows once again.



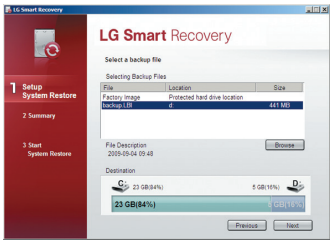
Windows backup and recovery using LG Smart Recovery

When Restoring the current OS from Windows (When Windows cannot be booted)

1. When booting the system, press **F11** on the keyboard to enter the Restore mode

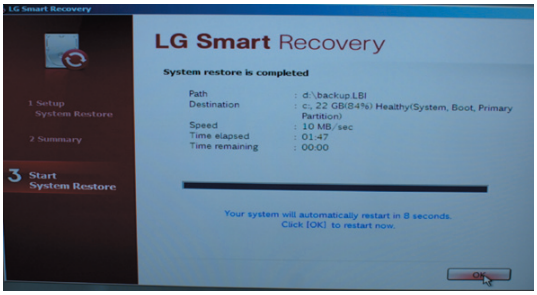
2. Select 'System Restore' ► Select the backup file from LG Smart Recovery
   (Factory image: Initial factory default image)
   (Backup.LBI: User created image)
   ► After checking the image to restore, click on 'OK'



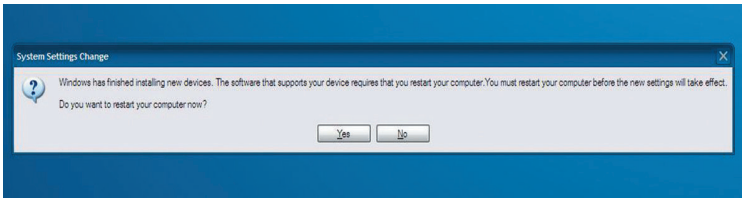




3. When the system is restored, click on OK'



※ After windows restarts automatically, select on 'Yes' if a screen as shown below appears then restart windows once again.



Limitation of Windows embedded XP

Limitation related to the installation of Microsoft Office

			WEPOS (SP3)	Windows Embedded POSReady	Windows XP Embedded (SP2)	Windows Embedded Standard
Excel	English OS	2003	O	O	O	O
		2007	O	O	X	O
	Korean OS	2003	O	O	O	O
		2007	O	O (Though installed, the software will generate an error during the update)	O	O
PowerPoint	English OS	2003	O	O	O	O
		2007	O	O	O	O
	Korean OS	2003	O	O	O	O
		2007	O	O	O	O
Word	English OS	2003	O	O	O	O
	Korean OS	2007	O	O	O	O

Embedded limitation of Microsoft Korean XP (Korean)

- When you run Full Screen (Alt+Enter) from the DOS window, the font can be broken.
- When saving the file with a different name from the Print window, the name of the menu window is displayed in English.
- When moving to the detail menu item of Control panel etc., some menus are displayed in English (HyperTerminal, Language setting by country etc.)

	Windows Embedded POSReady	WEPOS (SP3)	Windows Embedded Standard
Office 2003	Normal installation/Operation	Error during installation (Same as existing) Installation is completed after ignoring the error	Error during installation (Same as existing) Installation is completed after ignoring the error
Office 2007	Normal installation/Operation	Normal installation/Operation	Normal installation/Operation

※ English versions, Office 2003/Office 2007, are all normally installed