

OWNER'S MANUAL LG Digital Signage (MONITOR SIGNAGE)

Please read this manual carefully before operating the your set and retain it for future reference.

22SM3B

www.lg.com

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19 **PRODUCT SPECIFICATIONS**

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

2

Important Precautions

Please read these safety precautions carefully before using the product.

🛕 WARNING

Failure to follow those warnings may result in death, serious injury or damage to the product or other property.

WARNING

• Indoor Use Only.

Electrical Power Related Precautions

MARNING

- Use only the power cord supplied with the unit or another manufacturer's authorized cord.
 - Failure to do so may result in fire or electrical shock or damage to the product.
- Use only a properly grounded plug and receptacle.
 - If you do not you may be electrocuted or injured. Or the product might be damaged.
- Do not use a damaged or loose plug.
 - This may cause electrical shock or fire.
- Operate the display only from a power source(i.e. voltage) indicated in the product specification.
 - Otherwise the product can be damaged, fire can occur or you may be electrocuted. If you are not sure what type of power supply you have, consult a certified electrician.
- In the presence of thunder and lightning, never touch the power cord and signal cable because it can be very dangerous.
 - It can cause electric shock.
- Do not connect several extension cords, electrical appliances or electrical heaters to a single outlet. Use a power bar with a grounding terminal designed for exclusive use with the computer.
 - ► A fire can break out due to overheating.
- Do not touch the power plug with wet hands. Additionally, if the cord pin is wet or covered with dust, dry the power plug completely or wipe dust off before plugging in the cord.
 - ► You may be electrocuted due to excess moisture.
- If you don't intend to use the product for a long time, unplug the power cable from the product.
 - Covering dust can cause a fire, or insulation deterioration can cause electric leakage, electric shock or fire.
- Insert the power plug firm so it cannot come loose.
 - A loose connection can cause fire.
- Hold the plug when pulling out the power cable. Do not pull the plug out by the wire. Do not bend the power cord with excessive force or put heavy objects on the power cord.
 - The power line can be damaged, which may cause electric shock or fire.

- Do not insert metal or other conductive materials into the product openings. Additionally, do not touch the power cable right after plugging into the wall input terminal.
 - You may be electrocuted.
- The appliance coupler is used as the disconnect device.
- Please make sure the device is installed near the wall outlet to which it is connected and that the outlet is easily accessible.
- Do not unplug the power cord while the product is in use.
 - Electrical shock can damage the product-
- As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.

Precautions in installing the Product

WARNING

- Keep away from heat sources like eaters or open flames.
 - Electrical shock, fire, malfunction or deformation may occur.
- Keep the packing anti-moisture material or vinyl packing out of the reach of children.
 - Anti-moisture material is harmful if swallowed. If swallowed by mistake, force the patient to vomit and visit the nearest hospital. Additionally, vinyl packing can cause suffocation. Keep it out of the reach of children.
- · Do not put heavy objects on the product on sit upon it.
 - If the product collapses or is dropped, you may be injured. Children must pay particular attention.
- Do not leave the power or signal cable where someone can trip
 over it.
 - The passerby can falter, which can cause electrical shock, fire, product breakdown or injury.
- Install the product in a neat and dry place. Do not use near water.
- Dust or moisture can cause electrical shock, fire or product damage.
 Do not add accessories that have not been designed for this display.
- If you smell smoke or other odors or hear a strange sound from the product unplug the power cord and contact LG Customer Service.
 - If you continue to use without taking proper measures, electrical shock or fire can occur.
- If you dropped the product or the case is broken, turn off the product and unplug the power cord.
 - If you continue to use without taking proper measures, electrical shock or fire can occur. Contact LG Customer Service.
- Do not drop an object on or apply impact to the product. Do not throw any toys or objects at the product.
 - It can cause injury to humans, problems to the product and damage the display.
- Keep out of reach of children and do not place toys near the product.
- Make sure the product ventilation hole is not blocked. Install the product more than 10cm from the wall.
 - If you install the product too close to the wall, it may be deformed or fire can break out due to internal heat build-up.
- Do not cover the product with cloth or other material (eg. plastic) while plugged in.
 - The product can be deformed or fire can break out due to internal overheating.
- Place the product on a flat and stable surface that is large enough to support the product.
 - If the product is dropped, you may be injured or the product may be broken.
- Install the product where no Electromagnetic Interference occurs.
- Keep the product away from direct sunlight.
 - ► The product can be damaged.

- Do not place the product on the floor.
 Small Children and others may trip over it.
- Do not install this product on a wall if it could be exposed to oil
- or oil mist.
 - ► This may damage the product and cause it to fall.
- For displays with glossy bezels the user should consider the placement of the display as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

Precautions in Moving the Product

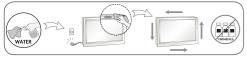
A WARNING

- Make sure to turn off the product.
 - ► You may be electrocuted or the product can be damaged.
- Make sure to remove all cables before moving the product.
 You may be electrocuted or the product can be damaged.
- When lifting or moving the product, do not hold it upside down while holding only the stand.
 - ► This may cause the product to fall resulting in damage or injury.
- Do not shock the product when moving it.
 - ▶ You may be electrocuted or the product can be damaged.
- Make sure the panel faces forward and hold it with both hands to move.
 - If you drop the product, the damaged product can cause electric shock or fire.
- Do not place the product face down.
 - ► This may damage the TFT-LCD screen.

Precautions in Using/Cleaning the Product

🛕 WARNING

- Do not attempt to disassemble, repair or modify the product yourself.
 - Fire or electric shock can occur.
 - Contact LG Customer Service for repair.
- When cleaning the product, unplug the power cord and scrub gently with a soft cloth to prevent scratching. Do not clean with a wet cloth or spray water or other liquids directly onto the product. An electric shock may occur. (Do not use chemicals such as benzene, paint thinners or alcohol)
- Keep the product away from water.
 - Fire or electric shock accident can occur.
- Avoid high temperatures and humidity.
- Do not put or store flammable substances near the product.
 - There is a danger of explosion or fire.
- Keep the product clean at all times.
- Take a comfortable and natural position when working with the product.
- Take a regular break when working with the product for a long time.
- Do not press on the panel with a hand or sharp object such as nail, pencil or pen, or make a scratch on it.
- · Keep proper distance from the product and rest from time-to-time.
 - Your vision may be impaired if you look at the product too closely or for too long.
- Set the appropriate resolution by referring to the User's Guide.
- Keep small accessories out of the reach of children.
- Displaying a still image for long time on the monitor may leave persistent image or stain on the monitor screen. To avoid this problem, use a screen saver and power off when this product is not used. Persistent image or stain caused by long time usage are not covered by the warranty on this product.
- Do not use products using high voltage around the Monitor. (ex. Electrical Swatter)
 - Monitor may have malfunction as its electrical shock.
- Spray water onto a soft cloth 2 to 4 times, and use it to clean the front frame;wipe in one direction only. Too much moisture may cause staining.



On Disposal (Only, Hg lamp used LCD Monitor)

- The fluorescent lamp used in this product contains a small amount of mercury.
- Do not dispose of this product with general household waste.
- Disposal of this product must be carried out in accordance to the regulations of your local authority.

LICENSES

Supported licenses may differ by model. For more information of the licenses, visit www.lg.com.



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• The warranty will not cover any damage caused by using the product in an excessively dusty environment.

ASSEMBLY AND PREPARATION

- Always use genuine components to ensure safety and product performance.
- The product warranty will not cover damage or injury caused by the use of counterfeit components.

- The accessories provided with your product may vary depending on the model or region.
- Product specifications or contents in this manual may be changed without prior notice due to upgrade of product functions.
- SuperSign Software & Manual
 - Downloading from the LG Electronics website.
- Visit the LG Electronics website (*www.lgecommercial.com/supersign*) and download the latest software for your model.

Optional Accessories

Without prior notice, optional accessories are subject to change to improve the performance of the product, and new accessories may be added. The illustrations in this manual may differ from the actual product and accessories.



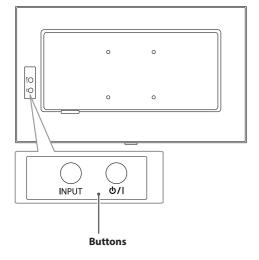
KT-SP0

Pixel sensor kit

- Optional accessories are available for some models. If necessary, please purchase them separately.
- Pixel sensor is sold separately. You can obtain additional accessories from your local retail store.

Parts and Buttons

- The image may be different according to the model.



- INPUT: Changes the input source.
- U/I: Turns the power on or off.

Portrait Layout

When installing in a portrait layout, rotate the monitor counterclockwise 90 degrees (when facing the screen).



Using Kensington Lock

(This is not available for all models.)

The Kensington security system connector is located at the back of the monitor. For more information on installation and use of this system, refer to the manual provided with the Kensington security system or visit *http://www.kensington.com.*

Connect the Kensington security system cable between the monitor and a table.





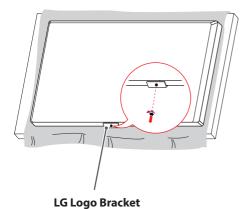
 The Kensington security system is optional. You can obtain additional accessories from most electronics retail stores.

Attaching and removing the LG Logo Bracket

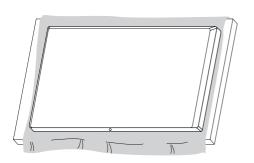
- For certain models only.
- The image may be different according to the model.

Removing the LG Logo

 Lay a clean cloth on the floor, and then put the monitor on it with the screen face down. Using a screwdriver, remove the screw that secures the LG Logo Bracket to the bottom rear of the monitor.

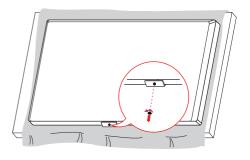


2 After removing the screw, remove the LG Logo. When re-attaching the LG Logo, repeat the process in reverse order.

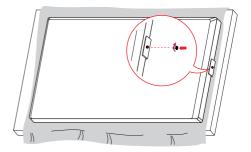


Attaching the LG Logo on the right side

 Lay a clean cloth on the floor, and then put the monitor on it with the screen face down. Using a screwdriver, remove the screw that secures the LG Logo Bracket to the bottom rear of the monitor.



2 After removing the screw, remove the LG Logo. Attach the LG Logo Bracket with a screw, aligning it with the hole on the right side.



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Installing the Wall Mount Plate

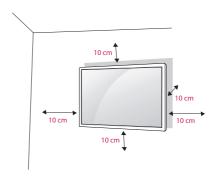
This monitor meets the specifications for the wall mount plate or other compatible devices.

- Place the screen face down. To protect the screen from scratches, cover the surface with a soft cloth.
- 2 Place the wall mount plate onto the monitor and align it with the screw holes.
- 3 Tighten the four screws to fix the plate to the monitor using a screwdriver.

- The wall mount plate is sold separately.
- For more information on installation, refer to the wall mount plate's installation guide.
- Be careful not to apply too much force while mounting the wall mount plate as it may cause damage to the screen.

Installing on the Wall

Install the monitor at least 10 cm away from the wall and leave about 10 cm of space at each side of the monitor to ensure sufficient ventilation. Detailed installation instructions can be obtained from your local retail store. Alternatively, please refer to the manual for how to install and set up a tilting wall mounting bracket.



To install the monitor to a wall, attach a wall mounting bracket (optional) to the back of the monitor.

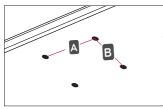
Make sure that the wall mounting bracket is securely fixed to the monitor and to the wall.

- 1 If you use screws longer than the standard length, it may damage the inside of the product.
- 2 A non-VESA standard screw may damage the product and cause the monitor to fall. LG Electronics is not liable for any accidents relating to the use of non-standard screws.

Wall Mount (A x B)	100 x 100
Screw specifications	M4 x L10
Number of screws required	4
Wall Mount Plate (Optional)	RW120

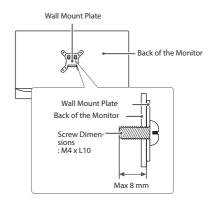
ENGLISH

• Wall Mount (A x B)



- Use the screws specified by VESA standards.
- The wall mount kit includes the installation guide and all necessary parts.
- The wall mounting bracket is optional. You can obtain optional accessories from your local dealer.
- The length of the screw may differ for each wall mounting bracket. Be sure to use the proper length.
- For more information, please refer to the user manual for the wall mounting bracket.

- Unplug the power cord before moving or installing the monitor to avoid electric shock.
- Installing the monitor on the ceiling or on a slanted wall may result in the monitor falling off, which could lead to injury. Use an authorized LG wall mount and contact the local dealer or qualified personnel.
- Applying excessive force when tightening screws may cause damage to the monitor. Damage caused in this way will not be covered by the product warranty.
- Use the wall mounting bracket and screws that conform to VESA standards. Damage caused by the use or misuse of inappropriate components will not be covered by the product warranty.
- When measured from the back of the monitor, the length of each installed screw must be 8 mm or less.



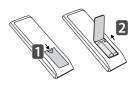
REMOTE CONTROL

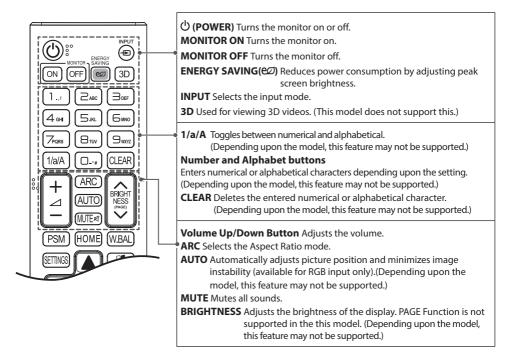
The descriptions in this manual are based on the buttons on the remote control. Please read this manual carefully to use the monitor correctly.

To install batteries, open the battery cover, place batteries (1.5 V AAA) matching \oplus and \odot terminals to the labels inside the compartment, and close the battery cover.

To remove the batteries, perform the installation actions in reverse. The illustrations may differ from the actual accessories.

- Do not mix old and new batteries, as this may damage the remote control.
- Be sure to point the remote control toward the remote control sensor on the monitor.
- Use the remote control within 3 m from the front.





 PSM Selects the Picture Mode. HOME Activates the Launcher. W.BAL Enters the White Balance menu. SETTINGS Accesses the main menus or saves your input and exit menus. S.MENU SuperSign menu key (Depending upon the model, this feature may not be supported.) Navigation Buttons Scrolls through menus or options. OK Selects menus or options and confirms your input. BACK Allows you to move back one step in the user interaction function.
 EXIT Quit all OSD tasks and applications.

MAKING CONNECTIONS

You can connect various external devices to your monitor. Change the input mode and select the external device you want to connect. For more information about external device connections, see the user manual provided with each device.

Connecting to a PC

Some of the cables are not provided.

This monitor supports the Plug & Play* feature.

* Plug & Play: a feature that enables a PC to recognize devices attached by the user without device configuration or user intervention when powering up.

External Device Connection

Connect a HD receiver, DVD, or VCR player to the monitor and select an appropriate input mode. Some of the cables are not provided. For the best picture and sound quality, connecting external devices to your monitor using HDMI cables is recommended.

- For the best image quality, using the monitor with HDMI connection is recommended.
- To comply with the specifications of the product, use a shielded interface cable with ferrite core, such as a D-sub 15-pin cable and HDMI cable.
- If you turn the monitor on when the set is cold, the screen may flicker. This is normal.
- Sometimes red, green, or blue spots may appear on the screen. This is normal.
- Use a High Speed HDMI[®]/[™] cable.
- Use a certified cable with the HDMI logo attached. If you do not use a certified HDMI cable, the screen may not display or a connection error may occur.
- Recommended HDMI Cable Types
 - High-Speed HDMI[®]/[™] Cable
 - High-Speed HDMI[®]/[™] Cable with Ethernet
- If you cannot hear any sound in HDMI mode please check your PC settings. Some PCs require you to manually change the default audio output to HDMI.
- If you want to use HDMI-PC mode, you must set your PC/DTV to PC mode.
- You may experience compatibility issues if you use HDMI-PC mode.
- Make sure the power cable is disconnected.
- If you connect a gaming device to the monitor, use the cable provided with the gaming device.
- It is recommended to use the speakers that are provided as optional accessories.
- High Speed HDMI[®]/[™] cables transmit a HD signal up to 1080p and higher.

- Connect the signal input cable and tighten it by turning the screws clockwise.
- Do not press the screen with your finger for a prolonged period as this may result in temporary distortion on the screen.
- Avoid displaying static images on the screen for a long period of time to prevent image burn. Use a screensaver if possible.
- A wireless communication device near your monitor can affect the image.

Using the Input List



• RGB -> HDMI

TROUBLESHOOTING ENGLISH

No image is displayed

Problem	Action
Is the product power cord connected?	 Check if the power cord is correctly plugged into the power outlet.
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: 1920 x 1080 (60 Hz)
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.

The Unknown Product message appears when the product is connected.

Problem	Action	
Did you install the driver?	Check if the Plug & Play function is supported by referring to the	
	video card user manual.	

The screen image looks abnormal.

Problem	Action
Is the screen position wrong?	 Check 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.
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.

Problem	Action	
After-image appears when the	 If you use a fixed image for a long time, the pixels may be 	
product is turned off.	damaged. Use the screen-saver function.	
	 When a dark image is displayed on the screen after an image 	
	with high contrast (black and white or gray), this may cause	
	image sticking. This is normal for LCD screen products.	

The audio function does not work.

Problem	Action	
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 equalizer sound.	
Sound is too low.	Adjust the volume.	

Screen color is abnormal.

Problem	Action
Screen has poor color resolution (16 colors).	• Set the number of colors to more than 24 bits (true color). Select Control Panel - Display - Settings - Color Table menu in Windows.
Screen color is unstable or mono-colored.	• Check the connection status of the signal cable. Or, re-insert the PC video card.
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. This is not a malfunction of the LCD.

The operation does not work normally.

Problem	Action	
The power suddenly turned off.	• Is the Timer set?	
	 Check the power control settings. Power interrupted. 	

- Displaying a still image for a long time may cause damage to the screen, resulting in a ghost image. Damage resulting from the reason above is not covered by the product warranty.
- Image sticking does not occur when using constantly changing images but may occur when using a fixed image for an extended period of time. Therefore, it is recommended that you use the instructions below to decrease the likelihood of image sticking occurring when using a fixed image. It is recommended that you change the screen at least once every **12 hours** at the very minimum; if done more frequently, the prevention of image sticking is more effective.

Recommended operating conditions

Change the background and the character colors using the same time interval.

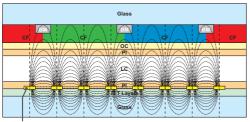


When changing colors, using complementary colors helps to prevent image sticking.

Change the image using the same time interval.



Make sure that the characters or images before changing the image remain in the same location after changing the image.



ITO or MoTi Pixel Layer

What is image sticking?

When the LCD panel displays a static image for an extended period of time, it can cause a voltage difference between the electrodes that operate the liquid crystals. When the voltage difference between the electrodes builds up over time, liquid crystals have a tendency to remain aligned in one direction. During this process, a previously displayed image remains visible. This phenomenon is referred to as image sticking.

PRODUCT SPECIFICATIONS

The product specifications below may be changed without prior notice due to upgrade of product functions.

LCD screen Screen type		Thin Film Transistor (TFT)	
		Liquid Crystal Display (LCD) Screen	
Video signal Maximum resolution		1920 x 1080 @ 60 Hz	
		- This may not be supported on some OS or graphic card types.	
	Recommended	1920 x 1080 @ 60 Hz	
	resolution	- This may not be supported on some OS or graphic card types.	
	Horizontal	RGB/HDMI : 30 kHz to 83 kHz	
	frequency		
	Vertical frequency	RGB: 50 Hz to 75 Hz	
		HDMI: 56 Hz to 60 Hz	
	Synchronization	Separate Sync, Digital	
Input/output ports		RS-232C IN, AUDIO IN, PIXEL SENSOR, LAN, RGB IN, HDMI IN, USB IN	
Embedded battery		Applied	
Environmental Conditions	Operating Temperature	0 °C to 40 °C	
	Operating Humidity	10 % to 80 %	
	Storage Temperature	-20 °C to 60 °C	
	Storage Humidity	5 % to 95 %	

~ refers to alternating current (AC), and --- refers to direct current (DC).

LCD screen	Pixel pitch	0.08265 mm (H) x 0.24795 mm (V)	
Power	Rated power AC 100-240 V~ 50/60 Hz 0.9 A		
	Power consumption	On Mode: 35 W Typ.	
		Sleep Mode (RGB, HDMI): ≤ 1.0 W	
		Off Mode: $\leq 0.5 \text{ W}$	
Dimensions (Width x Height x Depth) / Weight	Head	510.3 mm x 302.1 mm x 53.8 mm / 3.6 kg	

Wireless module(LGSBW41)Specifications			
Wireless LAN		Bluetooth	
Standard	IEEE 802.11a/b/g/n	Standard	Bluetooth Version 4.0
Frequency	2400 to 2483.5MHz	Frequency	
range	5150 to 5250 MHz	range	2400 to 2483.5MHz
	5725 to 5850 MHz		
*Because band channel used by the country could be different, the user can not change or adjust theoperating frequency and this product is set for the regional frequency table.			
*This device should be installed and operated with minimum distance 20 cm between the device and your body. And this phrase is for the general statement for consideration of user environment.			
*Contains FCC ID: BEJLGSBW41 / Contains IC: 2703H-LGSBW41			

ENGLISH

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RGB (PC) Support Mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)
720 x 400	31.468	70.8
640 x 480	31.469	59.94
800 x 600	37.879	60.317
1024 x 768	48.363	60.0
1280 x 720	44.772	59.855
1280 x 960	60	60
1280 x 1024	63.981	60.02
1680 x 1050	65.29	59.954
1920 x 1080	67.5	60

HDMI (DTV) Support Mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)
480/60p	31.5	60
576/50p	31.25	50
720/50p	37.5	50
720/60p	45	60
1080/50i	28.1	50
1080/60i	33.75	60
1080/50p	56.25	50
1080/60p	67.5	60

HDMI Support Mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 x 480	31.469	59.94
800 x 600	37.879	60.317
1024 x 768	48.363	60
1280 x 720	44.772	59.855
1366 x 768	47.7	60
1280 x 1024	63.981	60.02
1680 x 1050	65.29	59.954
1920 x 1080	67.5	60

- PC resolutions available for the Input Label option in RGB / HDMI input modes: 640 x 480/ 60 Hz, 1280 x 720/60 Hz, 1920 x 1080/60 Hz; 480p, 720p, and 1080p DTV resolutions.
- Vertical frequency: The product display functions by the screen image changing dozens of times every second like a fluorescent lamp. The vertical frequency or refresh rate is the number of image displays per second. The unit is Hz.
- Horizontal frequency: The horizontal interval is the time taken to display one horizontal 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.



Make sure to read the Safety Precautions before using the product. The model and serial numbers of the SET are

located on the back and one side of the SET. Record it below should you ever need service.

MODEL

SERIAL

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.

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