



OWNER'S MANUAL

# Transparent Display

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

47WFB

49WFB

55WFB

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### NOTE

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

# 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

### WARNING

- 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 heaters 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

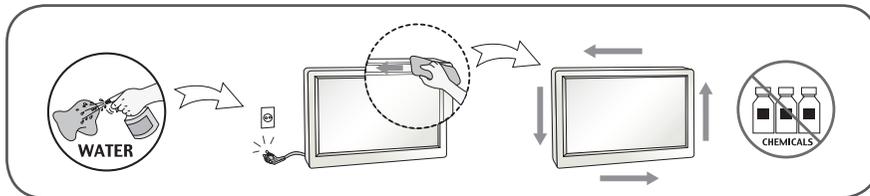
### WARNING

- 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.



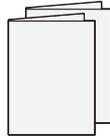
## On Disposal (Only, Hg lamp used LCD Monitor)

- 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.

# INSTALLATION PREPARATION

## Accessories

Check your product box for the following items. If there are any missing accessories, contact the local dealer where you purchased your product. The illustrations in this manual may differ from the actual product and accessories.



**Card and book**

### ! NOTE

- 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.
- LVDS cable is optional and not provided with the product. Please refer to **LVDS Pin Map Guide** for the LVDS cable assembly.
- This product is used as a built-in product installed inside of an enclosure and cooler.
- Long-term storage may cause staining on the extruded aluminum from oxidation.

### ! CAUTION

- Do not use any unapproved or counterfeit parts or accessories to ensure the safety and product life span.
- Any damages or injuries by using unapproved items are not covered by the warranty.

## Mounting Holes

### CAUTION

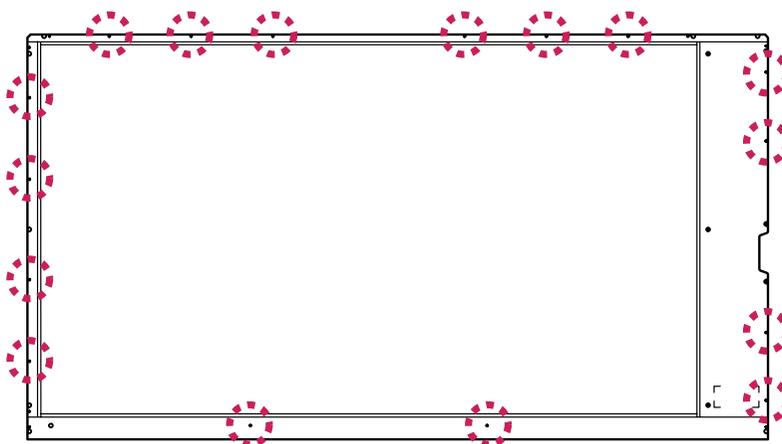
- This product has the front and back sides. Make sure the product is installed with the front side facing forward.
- Image is displayed reversely on the back side.

47WFB

Use M3 screws to mount the monitor. There are 16 positions for screws on the rear side of the product.



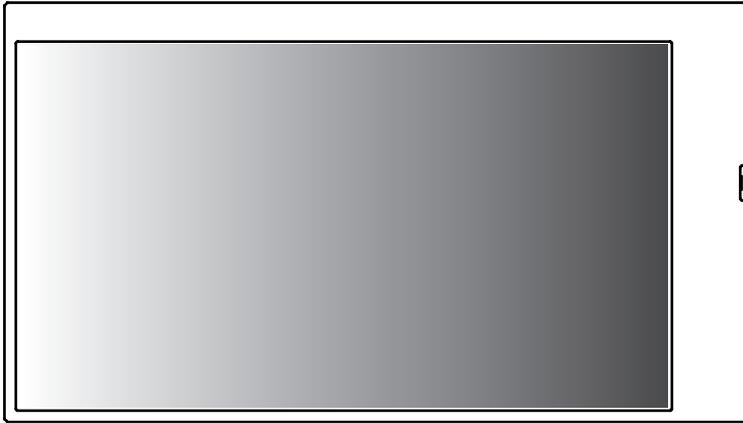
< Front of the product >



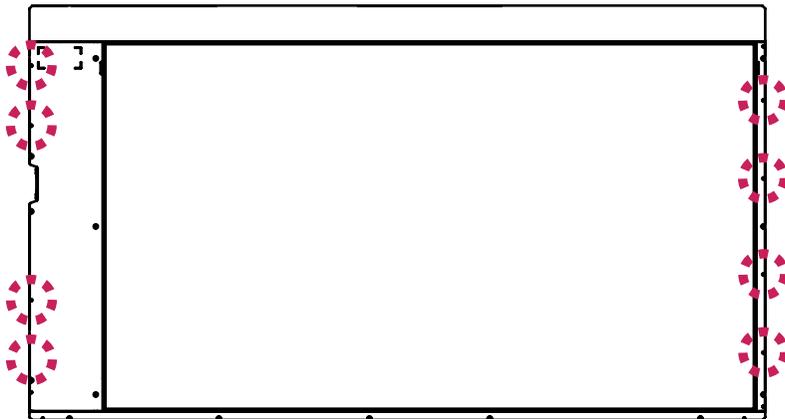
< Rear of the product >

49WFB

Use M3 screws to mount the monitor. There are 8 positions for screws on the rear side of the product.



< Front of the product >



< Rear of the product >

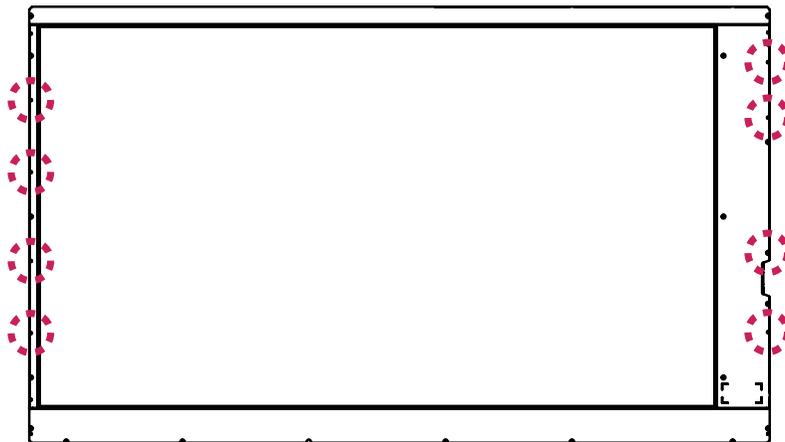
55WFB

Use M3 screws to mount the monitor. There are 8 positions for screws on the rear side of the product.

ENGLISH



< Front of the product >

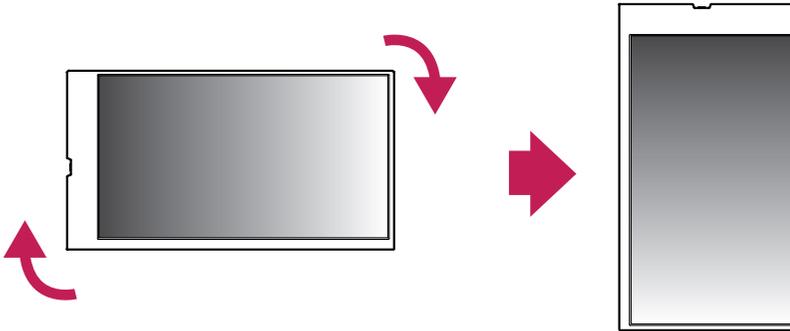


< Rear of the product >

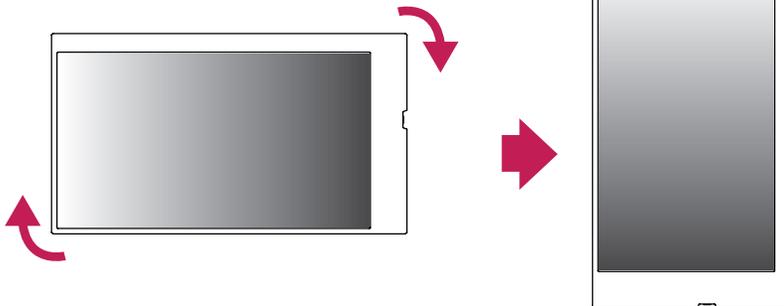
## Portrait Layout

To install in portrait mode, rotate the set clockwise 90 degrees when looking at from the front. The portrait mode is only available on the scaler board. (The scaler board should support portrait mode.)

47/55WFB



49WFB

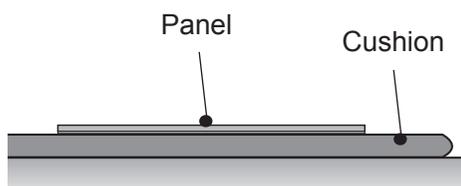


### CAUTION

- The scaler board is optional and it is not part of the product.

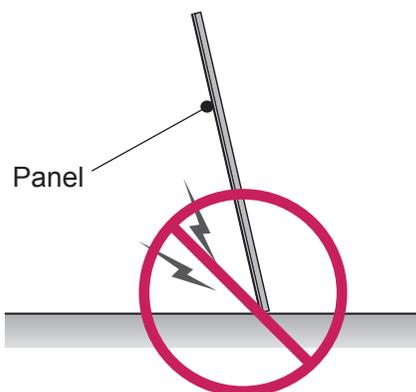
## Storage Method for Panel Protection

### Correct Method

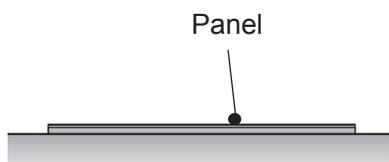


When laying the product on a flat floor, pit it face down on a cushion or blanket to prevent scratching and damage.

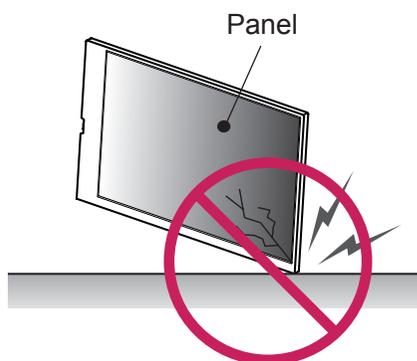
### Incorrect Method



If the product is tilted onto the bezel, the bottom of the panel may be damaged.



If there is no a cushion or a soft cloth available, ensure the floor is clean. Then lay the product down carefully with the panel facing either upward or downward. At this time, make sure that no object falls on the panel.



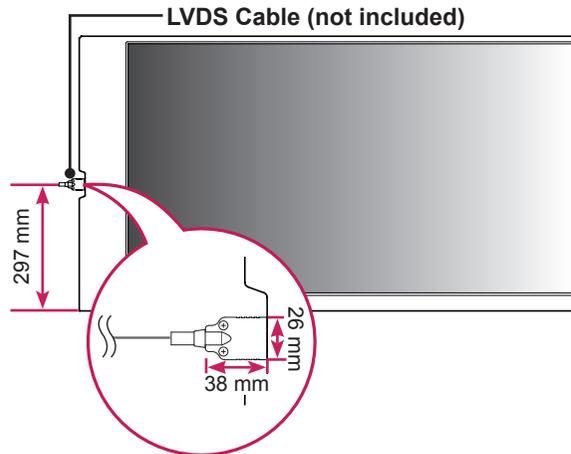
If the product is tilted onto the edge of the panel, the panel may be damaged.

# PRODUCT INSTALLATION

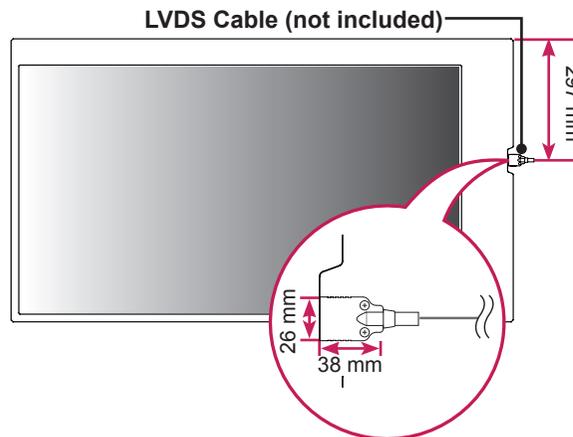
## Installing an LVDS Cable

The LVDS cable port is located as shown in the figure below.  
When installing the product, make sure there is enough space to install the LVDS cable.

47/55WFB



49WFB



### NOTE

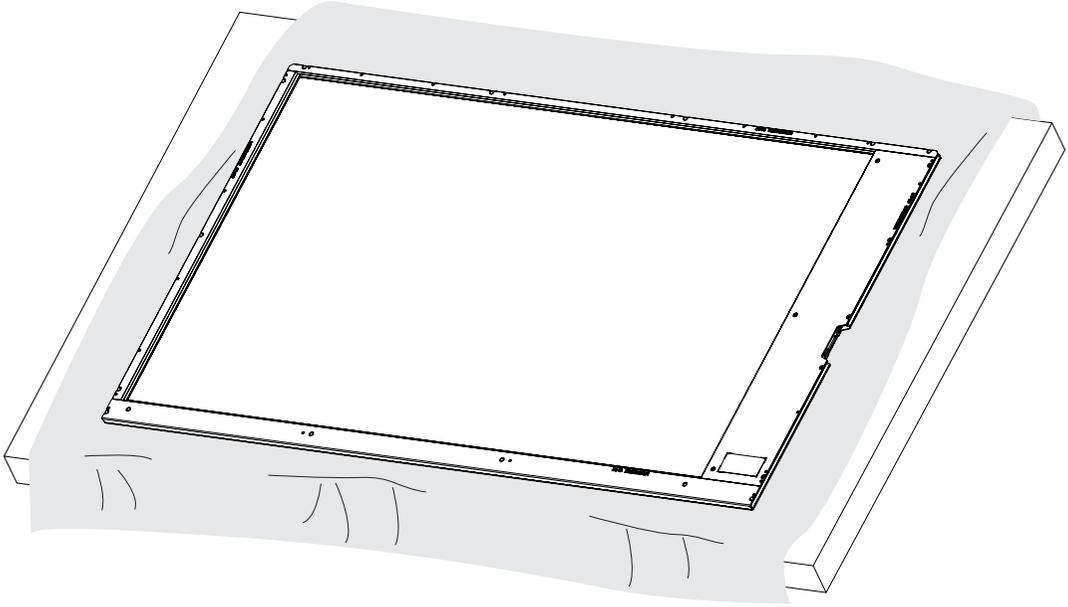
- LVDS cable is optional and not provided with the product.

### CAUTION

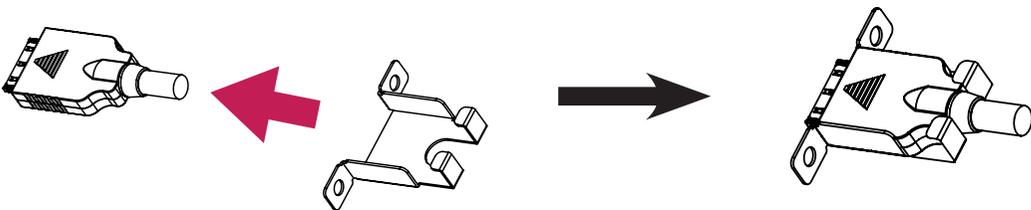
- Connect the cable when the scaler board is off.
- Make sure to connect the cable correctly.

## 47/55WFB LVDS connection

- 1 Place a soft cloth on the table and put the set on it as illustrated.



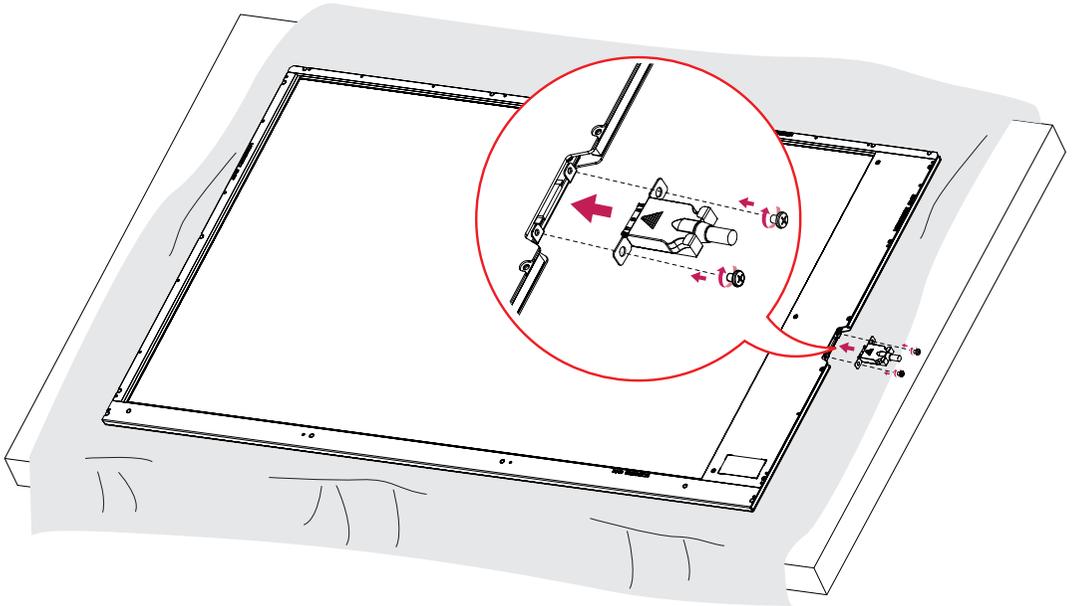
- 2 Put a LVDS cable in a holder. Cable head has to be properly oriented.



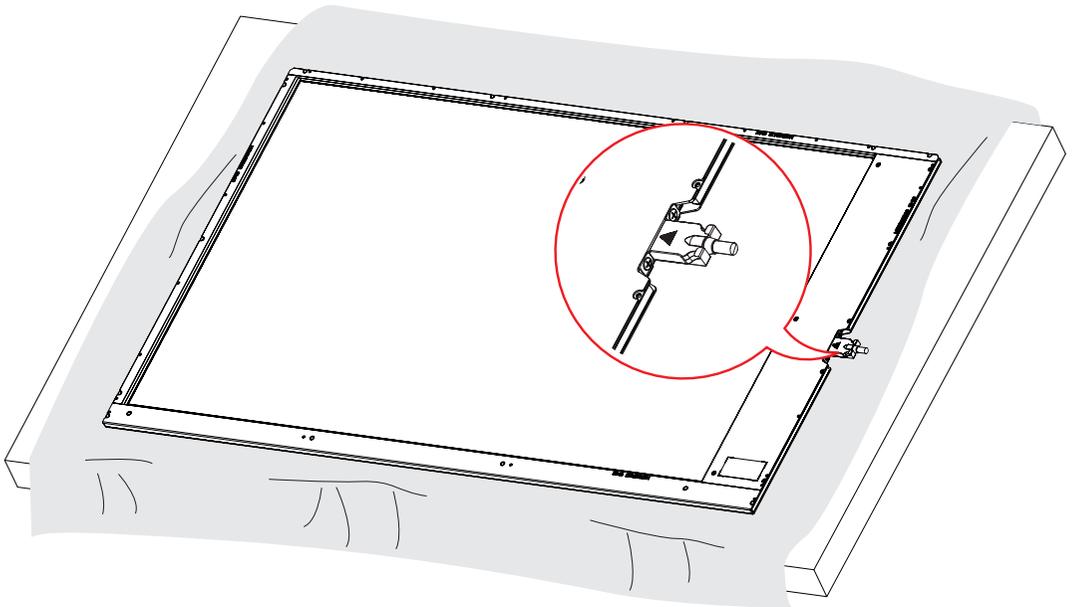
### CAUTION

- To prevent the LVDS cable from being separated, you must use a LVDS holder.
- Check the direction of the LVDS cable to prevent damage to the LVDS cable.

- 3 Attach LVDS cable and holder to the set with two screws. (These screws are included with TSP500-M/TSP510-M.)



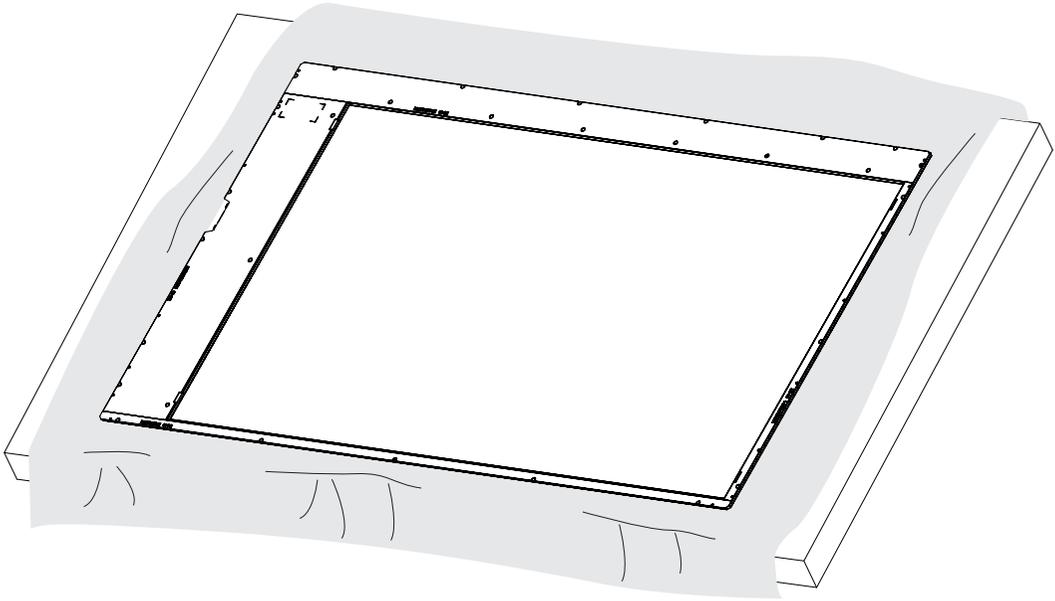
- 4 Cable head has to be toward set back. (Label is located on set back.)

**CAUTION**

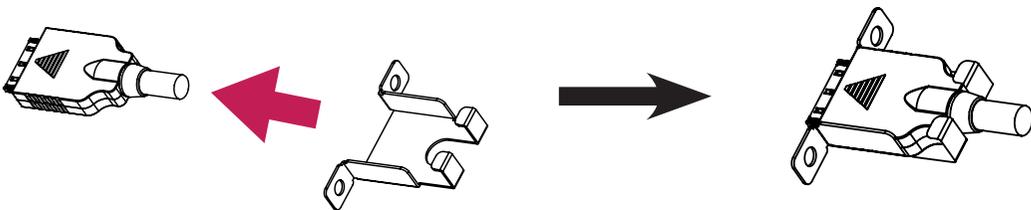
- To prevent the LVDS cable from being separated, you must use a LVDS holder.
- Check the direction of the LVDS cable to prevent damage to the LVDS cable.

## 49WFB LVDS connection

- 1 Place a soft cloth on the table and put the set on it as illustrated.



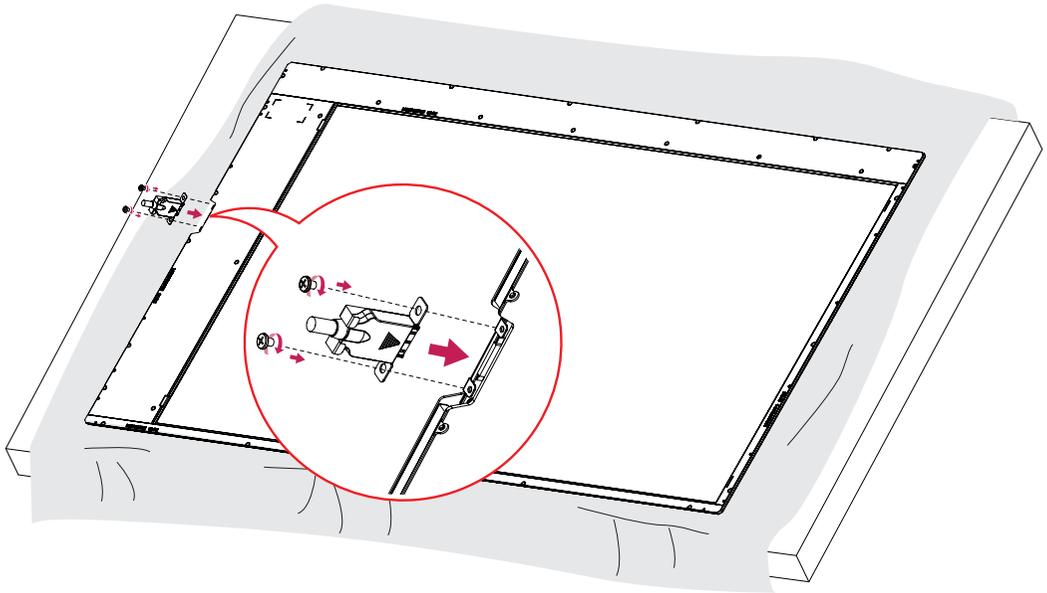
- 2 Put a LVDS cable in a holder. Cable head has to be properly oriented.



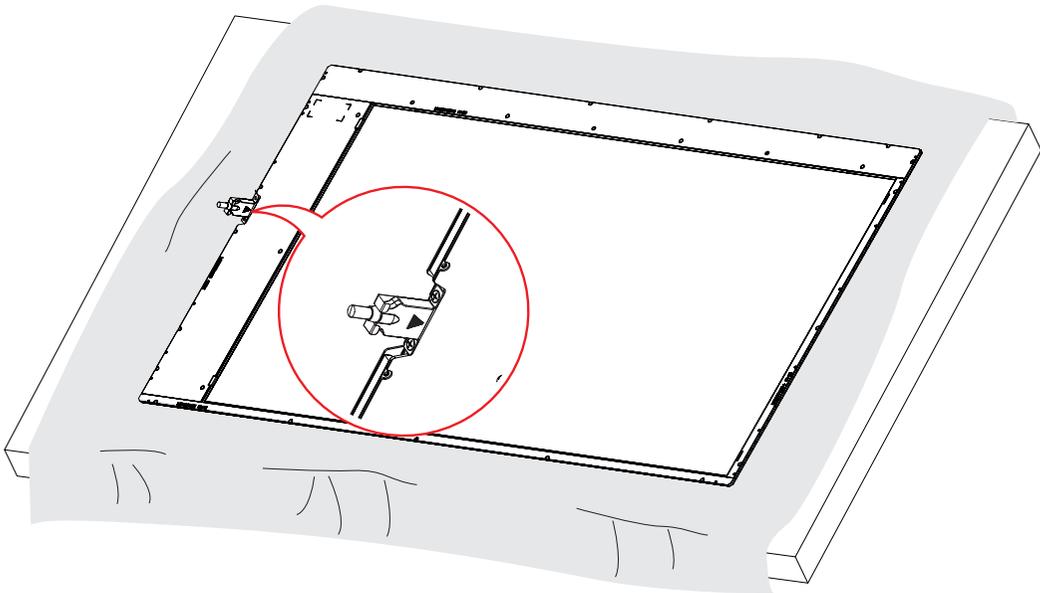
### CAUTION

- To prevent the LVDS cable from being separated, you must use a LVDS holder.
- Check the direction of the LVDS cable to prevent damage to the LVDS cable.

- 3 Attach LVDS cable and holder to the set with two screws. (These screws are included with TSP500-M/TSP510-M.)



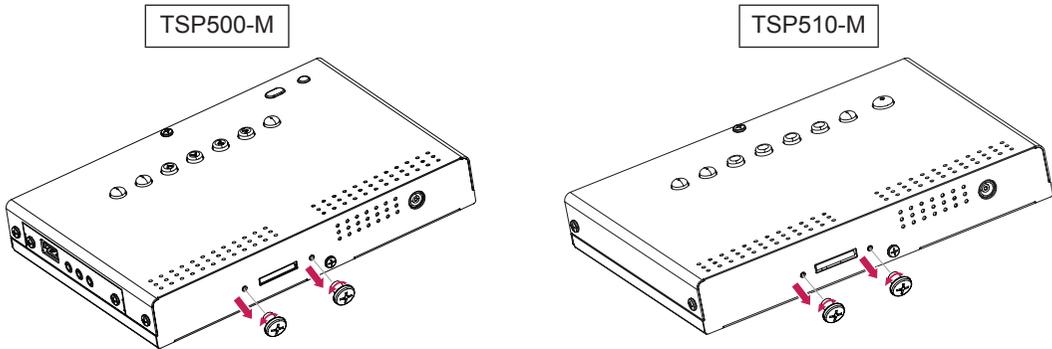
- 4 Cable head has to be toward set back. (Label is located on set back.)

**CAUTION**

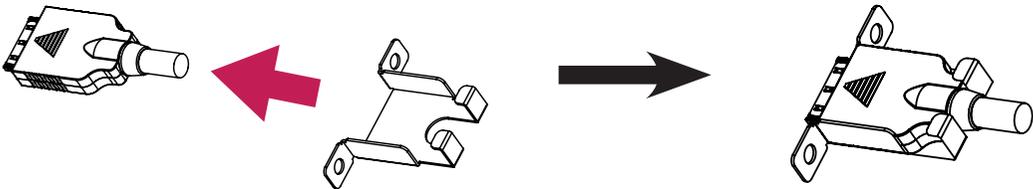
- To prevent the LVDS cable from being separated, you must use a LVDS holder.
- Check the direction of the LVDS cable to prevent damage to the LVDS cable.

## TSP500-M/TSP510-M LVDS connection

- 1 Unscrew two screws to assemble LVDS cable and holder. Don't throw away the screws.



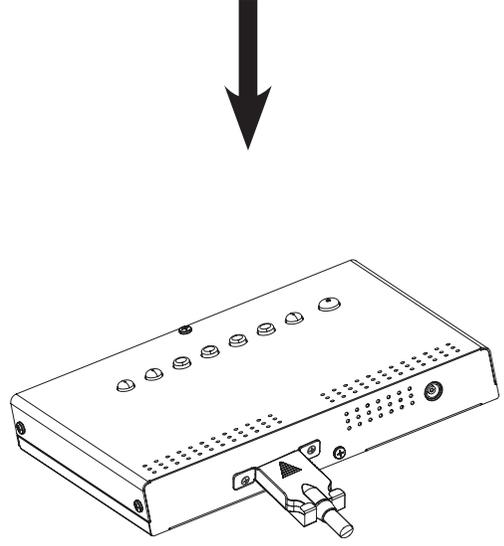
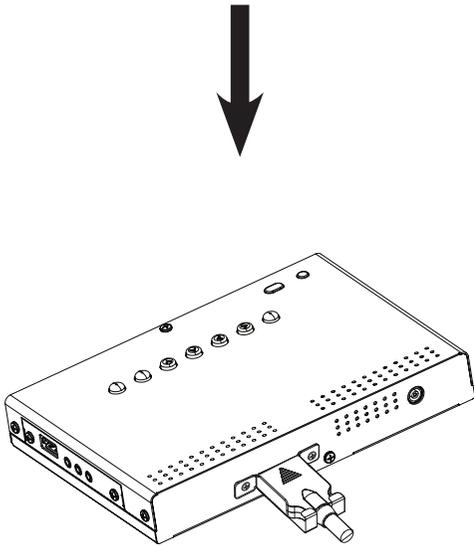
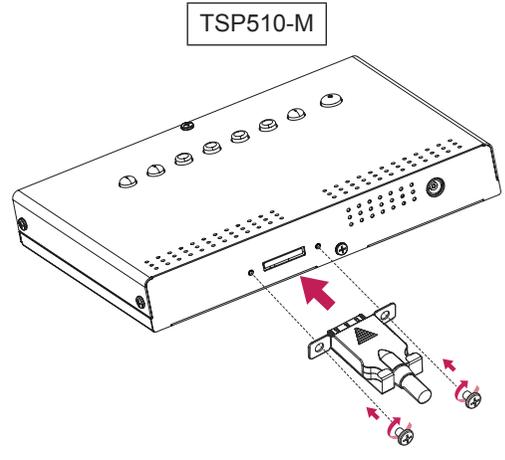
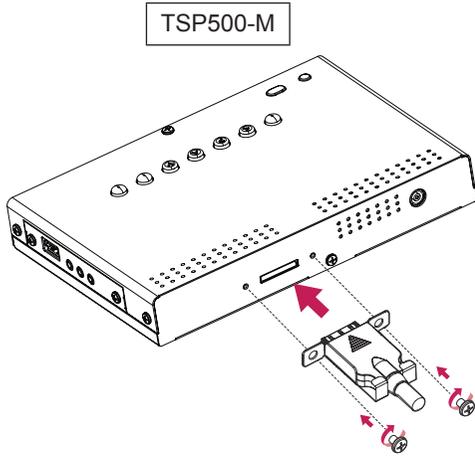
- 2 Put a LVDS cable in a holder. Cable head has to be properly oriented.



### CAUTION

- To prevent the LVDS cable from being separated, you must use a LVDS holder.
- Check the direction of the LVDS cable to prevent damage to the LVDS cable.

- 3 Attach LVDS cable and holder to TSP500-M/TSP510-M with two screws saved in step 1.

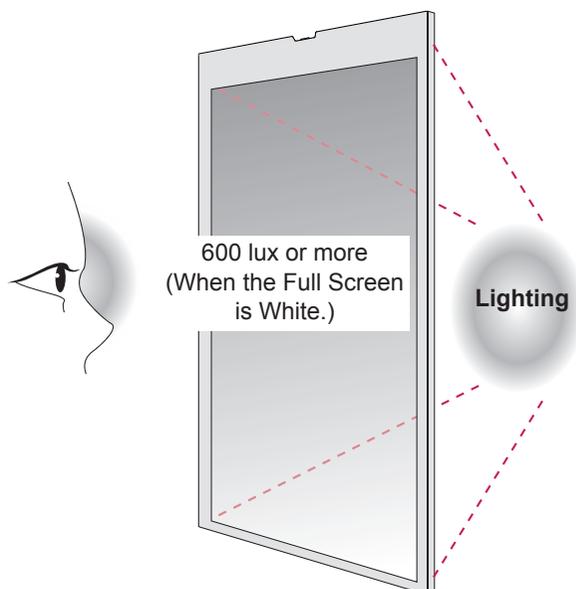
**CAUTION**

- To prevent the LVDS cable from being separated, you must use a LVDS holder.
- Check the direction of the LVDS cable to prevent damage to the LVDS cable.

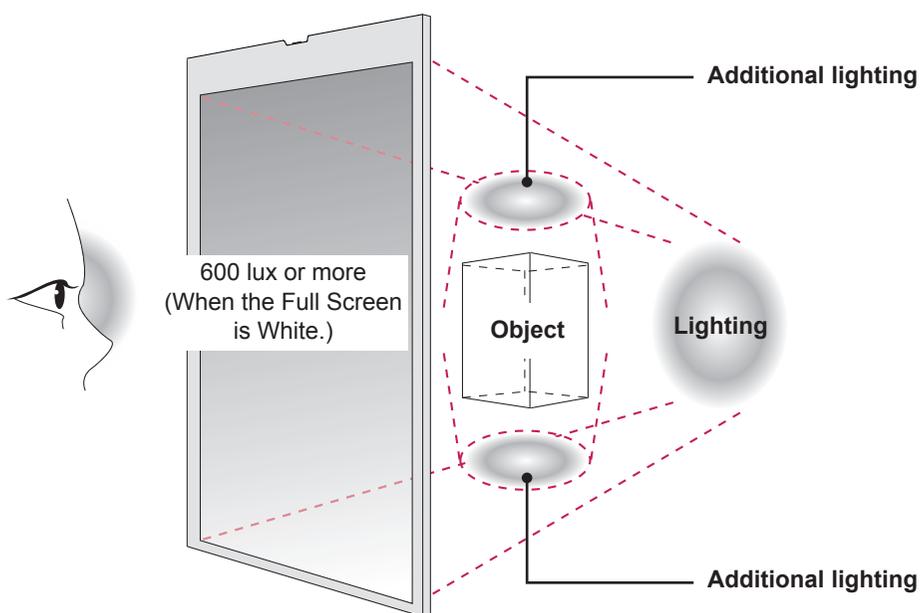
## Lighting Installation

This product must be installed with backlighting.

Lighting must be installed behind the product so that the display can be seen clearly.



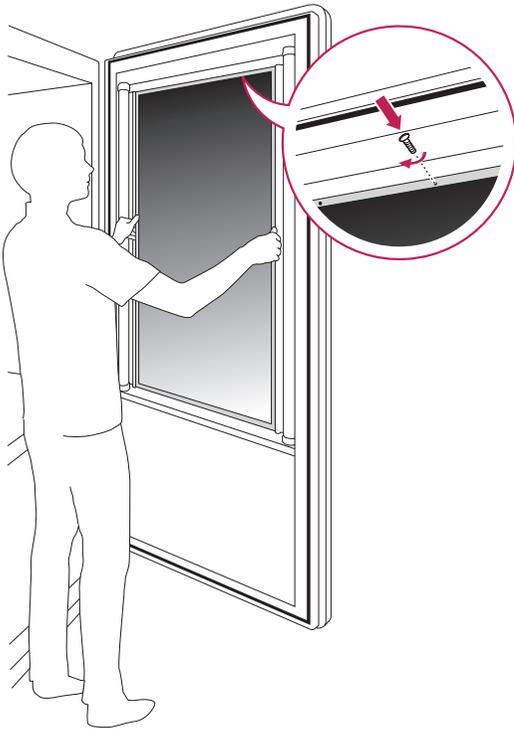
If something obstructs the backlighting, additional lighting may be required.



## Installation in Enclosure

Install the product in the enclosure. Wear working gloves when installing the product. Do not use bare hands. Otherwise, it may cause personal injury.

- 1 Place the product in the enclosure.
- 2 Attach the product using the prepared screw holes and an additional enclosure guide frame.



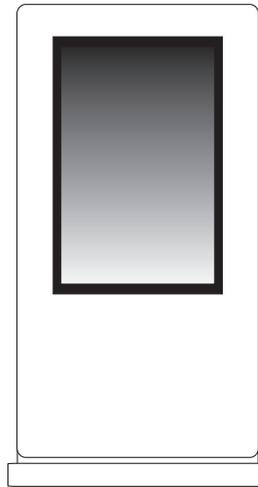
### NOTE

- This product can be installed in various locations besides the enclosure.

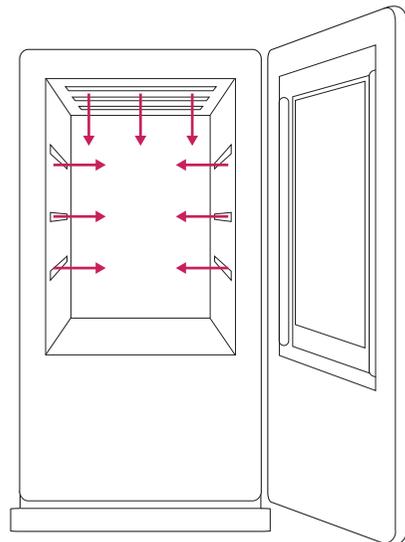


### CAUTION

- The panel of this product is so thin that it can be easily broken when it is exposed to the outside. Use a clear protective cover to keep the product from exposure to the elements.
- When installing the product in its housing, make sure that the framework of the product is grounded. (This helps prevent the product being damaged in the event of thunder and lightning.)



<Example of the product in the enclosure>



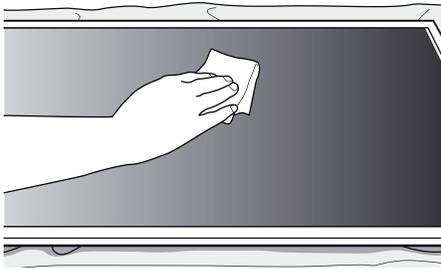
<Example of the lighting installation>  
Lighting must be installed in the enclosure.

## Precaution

### Correct Method



Do not hold the screen area when holding the product.



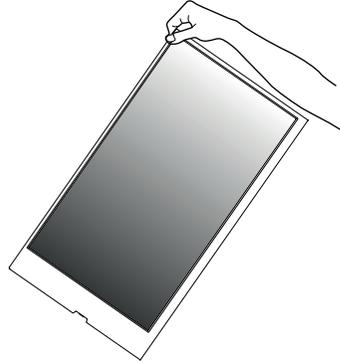
Use a soft cloth moistened with n-hexane to remove dust or stains on the screen.



#### CAUTION

- If a fixed image displays on the screen for a long period of time, it will be imprinted and become a permanent disfigurement on the screen. This is image burn or burn-in and not covered by the warranty.
- To prevent image sticking, do not play a still image for more than two hours.
- Recommended operation time for optimum performance and reliability is 12 hours or less per day.

### Incorrect Method



Do not lift up the product by holding a corner.



#### CAUTION

- Make sure the power is disconnected before moving or installing the product. Otherwise electric shock may occur.
- Wear working gloves when installing the product. Do not use bare hands. Otherwise, it may cause personal injury.
- If you install the product on a ceiling or slanted wall, it may fall and result in severe injury.
- Do not fasten the screws too tightly; this may cause damage to the product and void your warranty.
- Use M3 x L4 screws to mount the monitor. Any damages or injuries caused by misuse or use of improper accessories are not covered by the warranty.

# TROUBLESHOOTING

## After-image appears on the product.

Problem	Resolution
After-image appears when the product is turned off.	<ul style="list-style-type: none"> <li>• If you use a fixed image for a long time, the pixels may be damaged quickly. Use the screen-saver function.</li> <li>• 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.</li> </ul>

## Screen color is abnormal.

Problem	Resolution
Screen color is unstable or mono-colored.	<ul style="list-style-type: none"> <li>• Check the connection status of the LVDS cable.</li> <li>• Check whether the LVDS cable is connected correctly following the LVDS Pin Map Guide.</li> </ul>
Do black spots appear on the screen?	<ul style="list-style-type: none"> <li>• 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.</li> </ul>

# SPECIFICATIONS

## 47WFB

Screen type	Liquid Crystal Display (LCD) Screen
Dimension (W x H x D)	1176.58 mm x 645.02 mm x 11.2 mm (46.3 inches x 25.3 inches x 0.4 inches)
Pixel Pitch	0.5415 mm x 0.5415 mm
Pixel Format	1920 horiz. by 1080 vert. Pixels, RGB stripe arrangement
Color Depth	8Bit (D), 16.7 Million colors
Transmittance (With POL)	6.4 % (Typ.)
Viewing Angle (CR>10)	Viewing angle free ( R/L 178 (Min.), U/D 178 (Min.))
Power Consumption	Total 6.1 W (Typ.)
Weight (head)	4.5 kg (9.9 lbs)
Display Operating Mode	Transmissive mode, Black screen by default
Surface Treatment (Top)	Hard coating (3H), Anti-glare treatment (Reflectance < 2 %)
Possible Display Type	Landscape and Portrait Enabled

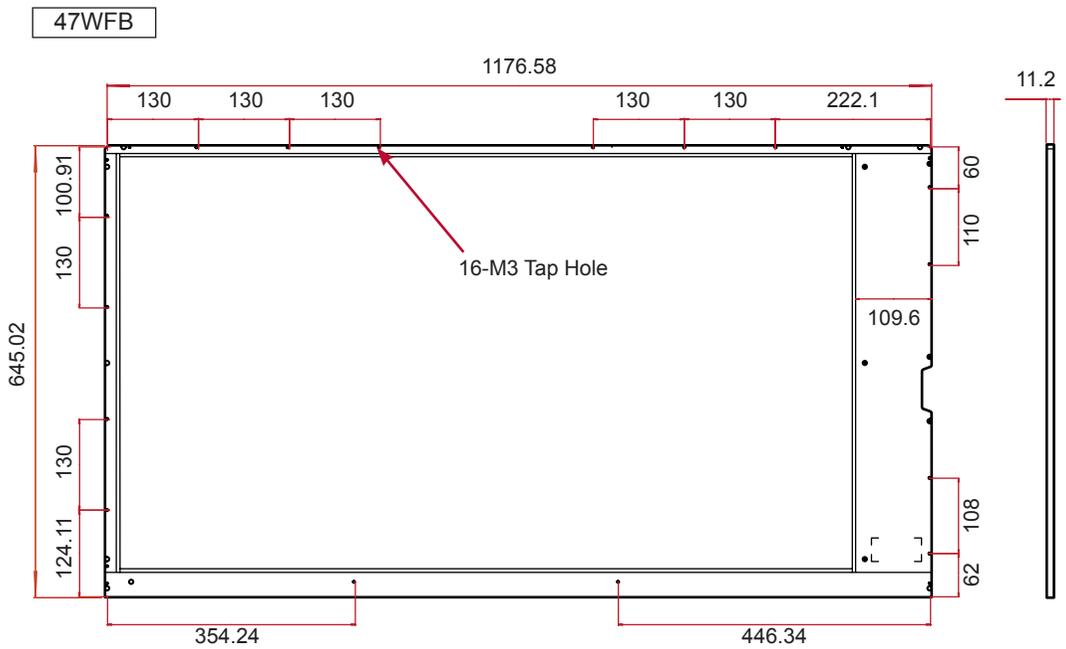
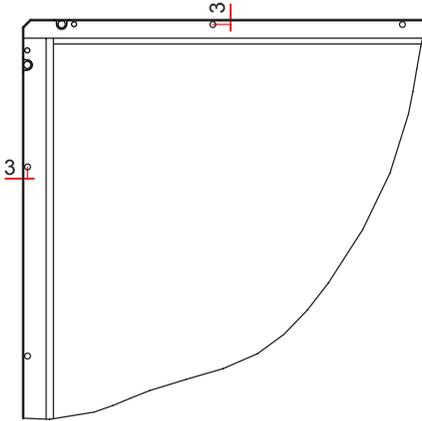
## 49WFB

Screen type	Liquid Crystal Display (LCD) Screen
Dimension (W x H x D)	1222.34 mm x 690.8 mm x 11.2 mm (48.1 inches x 27.1 inches x 0.4 inches)
Pixel Pitch	0.5593 mm x 0.5593 mm
Pixel Format	1920 horiz. by 1080 vert. Pixels, RGBW stripe arrangement
Color Depth	10Bit (D): 1070 Million colors, 8Bit (D): 16.7 Million colors
Transmittance (With POL)	9.5 % (Typ.)
Viewing Angle (CR>10)	Viewing angle free ( R/L 178 (Min.), U/D 178 (Min.))
Power Consumption	Total 5.4 W (Typ.)
Weight (head)	5.4 kg (11.9 lbs)
Display Operating Mode	Transmissive mode, Black screen by default
Surface Treatment (Top)	Hard coating (2H), Anti-glare treatment (Reflectance < 2 %)
Possible Display Type	Landscape and Portrait Enabled

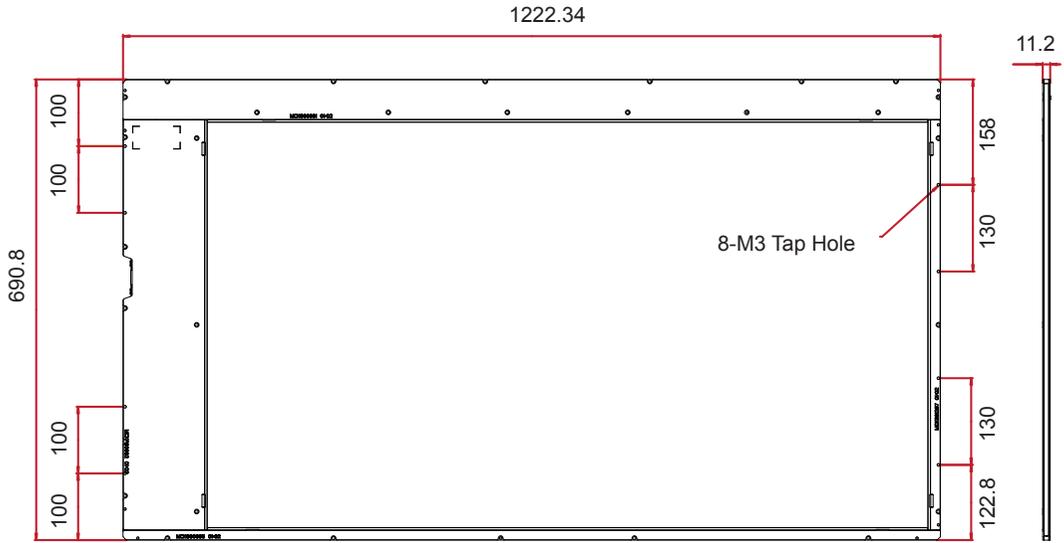
## 55WFB

Screen type	Liquid Crystal Display (LCD) Screen
Dimension (W x H x D)	1331.1 mm x 786.7 mm x 11.2 mm (52.4 inches x 30.9 inches x 0.4 inches)
Pixel Pitch	0.210 mm x 0.630 mm
Pixel Format	1920 horiz. by 1080 vert. Pixels, RGBW stripe arrangement
Color Depth	8Bit (D), 16.7 Million colors
Transmittance (With POL)	10.0 % (Typ.)
Viewing Angle (CR>10)	Viewing angle free ( R/L 178 (Min.), U/D 178 (Min.))
Power Consumption	Total 5.52 W (Typ.)
Weight (head)	6.6 kg (14.5 lbs)
Display Operating Mode	Transmissive mode, Black screen by default
Surface Treatment (Top)	Hard coating (2H), Anti-glare treatment (Reflectance : 1.5 %)
Possible Display Type	Landscape and Portrait Enabled

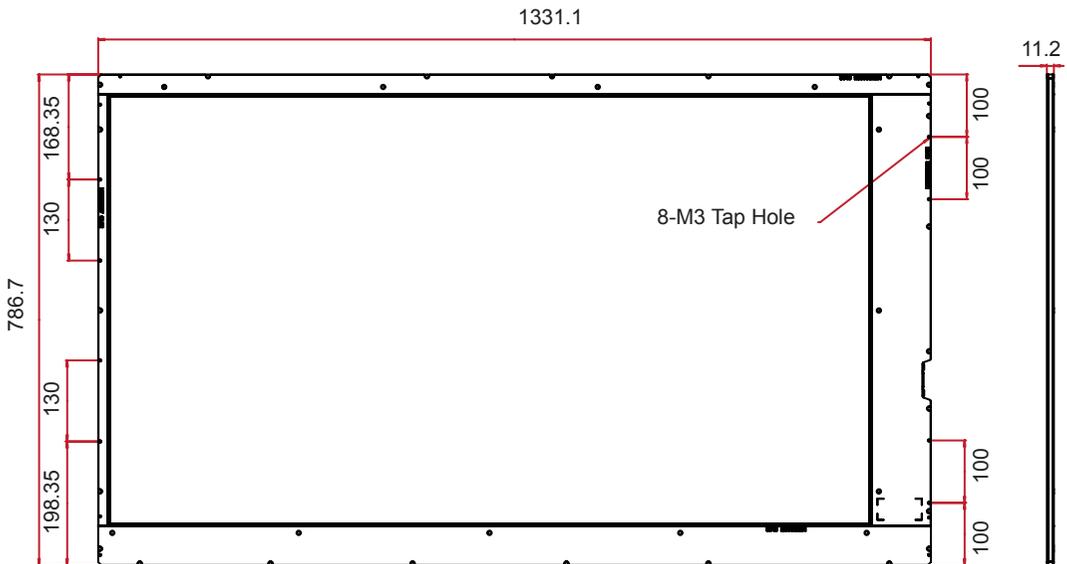
(Unit : mm)



49WFB



55WFB



# LVDS PIN MAP GUIDE

- 47/49/55WFB LVDS connector: DD4RA40JA1 or equivalent
- LVDS cable connector: DD4PA40MA1 or equivalent
- Cable specification: Coaxial cable or twisted pair cable 1 meter long or shorter

Pin No.	Symbol	Description	NOTE
1	V <sub>LCD</sub>	Power Supply+12.0V	1
2	V <sub>LCD</sub>	Power Supply+12.0V	1
3	V <sub>LCD</sub>	Power Supply+12.0V	1
4	V <sub>LCD</sub>	Power Supply+12.0V	1
5	GND	Ground	
6	GND	Ground	
7	R2DP	Second LVDS receiver signal (D+)	
8	GND	Ground	
9	R2DN	Second LVDS receiver signal (D-)	
10	R2CLKP	Second LVDS receiver clock signal (+)	
11	GND	Ground	
12	R2CLKN	Second LVDS receiver clock signal (-)	
13	R2CP	Second LVDS receiver signal (C+)	
14	GND	Ground	
15	R2CN	Second LVDS receiver signal (C-)	
16	R2BP	Second LVDS receiver signal (B+)	
17	GND	Ground	
18	R2BN	Second LVDS receiver signal (B-)	
19	R2AP	Second LVDS receiver signal (A+)	
20	GND	Ground	
21	R2AN	Second LVDS receiver signal (A-)	
22	GND	Ground	
23	R1DP	First LVDS receiver signal (D+)	
24	GND	Ground	
25	R1DN	First LVDS receiver signal (D-)	
26	R1CLKP	First LVDS receiver clock signal (+)	
27	GND	Ground	
28	R1CLKN	First LVDS receiver clock signal (-)	
29	R1CP	First LVDS receiver signal (C+)	
30	GND	Ground	
31	R1CN	First LVDS receiver signal (C-)	
32	R1BP	First LVDS receiver signal (B+)	
33	GND	Ground	
34	R1BN	First LVDS receiver signal (B-)	

Pin No.	Symbol	Description	NOTE
35	R1AP	First LVDS receiver signal (A+)	
36	GND	Ground	
37	R1AN	First LVDS receiver signal (A-)	
38	GND	Ground	
39	NC	No Connection	
40	LVDS Select	H' = JEIDA, 'L' = VESA	

- Note: 1. All  $V_{LCD}$  (power input) pins should be connected together.  
2. All Input levels of LVDS signals are based on the EIA 644 Standard.



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** \_\_\_\_\_

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