LG
Life's Good

OWNER'S MANUAL

Mini-PC for Signage(Hardware)

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

Mini-PC for Signage
PC700

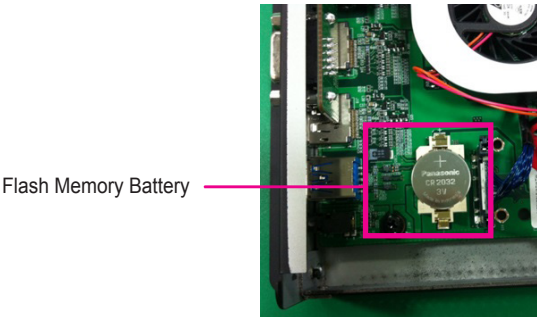
www.lgecommercial.com
www.lg.com

TABLE OF CONTENTS

Replacing Flash Memory Battery 3
Specifications 4
General Specifications 4
Multi I/O Port 4
Operational Specifications 4
Included in the Box 5
Basic Components 5
Optional Items 5
Connections 6
Front Panel 6
Back Panel 6
Monitor Integration 7
**WS50 Model 7
**WX50MF Model 8
84WS70MS Model 9
In/Out Cable Connection 10
DP to HDMI dongle product list 10
Connecting a Monitor with an RGB Cable 11
Connecting a Monitor with DP (DisplayPort) Cable 13
Connection to Multiple Monitors 17
Frequently Asked Questions (FAQs) 18
Unified Codecs 21
Network Setting 21

Replacing Flash Memory Battery

The flash memory battery helps maintain the system (BIOS) settings when the computer is powered off.
The flash memory battery is a consumable part.



Attention

- When you change the flash memory battery, it is recommended that you seek assistance from the LG Electronics Service Center.
- Using a non-standard battery may cause a malfunction.
- If a malfunction is caused by trying to replace a part on your own, servicing will be charged.
- If the product is not connected to the AC power for an extended period of time, the flash memory battery may be discharged. In this case, servicing will be charged.
- When the battery is discharged, the message below will appear on the boot screen. In this case, you should replace the battery.

  => ERROR
  0271: Check data and time settings
  WARNING
  0251: System CMOS checksum bad - Default configuration used
  Press <F1> to resume, <F2> to Setup

Specifications

Attention

- Product specifications may change without prior notice to improve performance.

General Specifications

Dimensions	260 mm (W) x 40.1 mm (H) x 275.9 mm (D) (only Set)	
Weight	SSD 2.3 Kg / 1 TB HDD 2.4 Kg	
CPU	Intel® Core™ i7-3610QE (Qaud Core, 2.3 GHz Clock Speed, 6M Cache) Intel® Core™ i5-3610ME (Dual Core, 2.7 GHz Clock Speed, 3M Cache)	
GPU	AMD Radeon™ E6760 Discrete GPU	
Chip Set	Mobile Intel® QM77 Express Chipset	
Main Memory	DDR3-1600 SODIMM 2 GB x2 (4 GB)	
Secondary Storage Device	SSD	32 GB, 64 GB
	HDD	1 TB
O/S	Microsoft® Windows® Embedded Standard 7 P (64 bit)	
Embedded battery	Applied	

Multi I/O Port

Serial Port	One external RS-232 Serial port
USB Port	USB 2.0 port (x2), USB 3.0 port (x1)
LAN Port	Intel® 82579 Gigabit Ethernet
RGB x1 / DP x4	x2 for UHD which is printed with 'HBR2'
Mini PCIe	Supported
LINE OUT	Supported

Operational Specifications

Resolution	Recommended Resolution	DP with HBR2: 3840 x 2160 @ 30 Hz DP: 1920 x 1080 @ 60 Hz RGB: 1920 x 1080 @ 60 Hz		
Power	Power Rating	100-240 V~ 50/60 Hz 1.8 A		
Operating Condition		Sync (H/V)	Video	LED
	Normal Mode	On/On	Active	On
	Deep Sleep Mode (Set = Off)	Off/Off	Off	Off
Operating Conditions	Operating Conditions	5 ℃ to 40 ℃	Humidity	10 % to 80 %
	Storage Conditions	-20 ℃ to 60 ℃	Humidity	5 % to 95 %

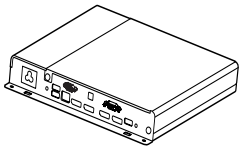
Note

The supported resolution may differ depending on the monitor.

Included in the Box

Basic Components

The PC700 comes with the following components. Please check that these components have been included prior to installation.



PC700



Owner's Manual / Cards



Power Cable



M 3.0 mm x Pitch 0.5 mm x Length 6.0 mm X 4ea

Attention

- These illustrations may differ from your product and are subject to change.
- In some countries, a Y-type cable may be provided instead of the power cord.
- Always use genuine components to ensure safety and product life. Any damages or injuries by misuse or using an improper accessory are not covered by the warranty.

Note

- SuperSign software and manual.
  - Downloading from the LG Electronics website.
  - Visit the LG Electronics website (*http://www.lgecommercial.com/supersign*) and download the latest software for your model.
    (Depending on the model, this feature may not be supported.)

Optional Items

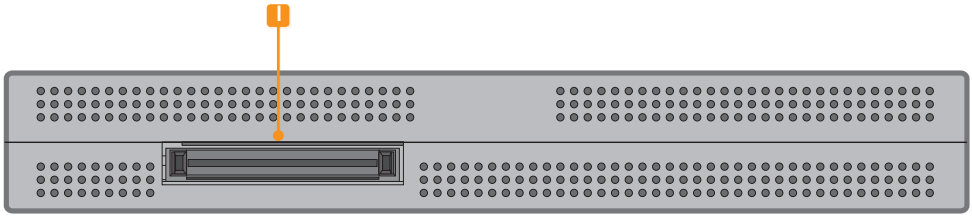
The following items are supported by the PC700, but are not provided with the product.

Please purchase optional items as needed.

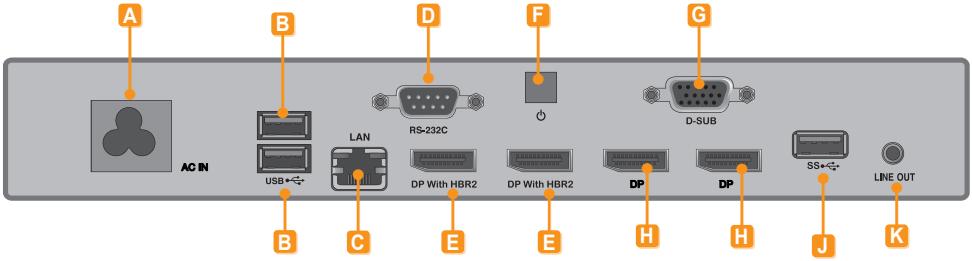
- DP (DisplayPort) cable, LINE-OUT (Audio Out) cable, LAN cable, mouse, keyboard.

Connections

Front Panel



Back Panel



Number	Connection	Description
A	Power Cable In	For the power cable.
B	USB 2.0 Connector	For USB-type devices, including memory, hard disk, CD-ROM, keyboard, and mouse.
C	LAN Connector	For a LAN cable.
D	RS-232C Out	For the RS-232C cable.
E	DisplayPort with HBR2 (Out)	Connects the cable to a monitor that supports DP (DisplayPort) (resolution: up-to 3840x2160)
F	Power Button	Turns PC700 ON/OFF.
G	RGB Connector (output)	Connects the cable to a monitor that supports RGB (VGA).
H	DP Output Port	Connects the cable to a monitor that supports DP (DisplayPort).
I	Monitor Docking Port	Connects the PC700 to a monitor.
J	USB 3.0 Connector	For USB 3.0 devices.
K	LINE-OUT Connector	For a LINE-OUT cable for analog audio transfer.

Monitor Integration

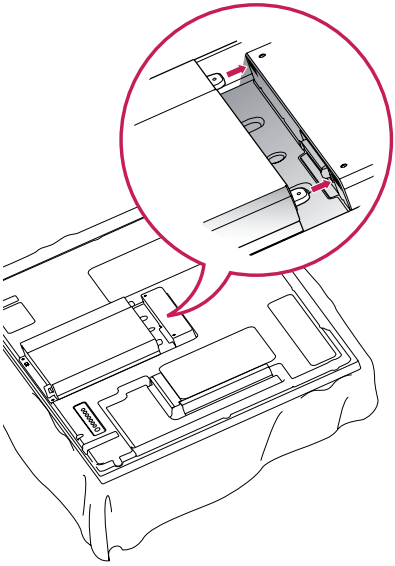
**WS50, **LT55A Models

We recommend you to use the items provided with your PC700 and follow our instructions for integrating the product with your monitor in order to ensure the correct results.

Attention

The illustrations shown are to guide your integration and may differ from your product.

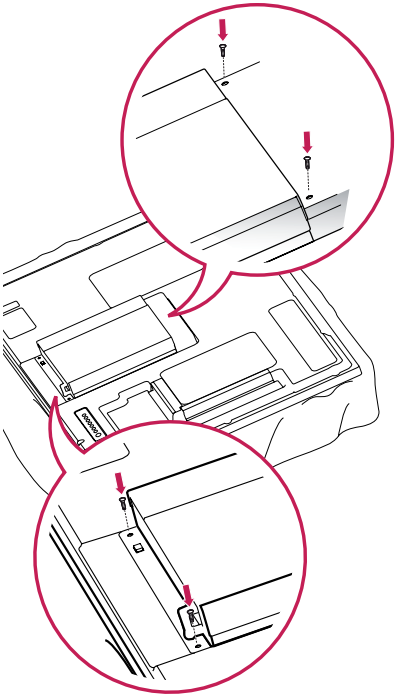
1 Place a soft cloth on the table and put the product on the table with the screen facing downward.
Push the PC700 into the compartment to mount it.



Attention

- Be careful of sharp edges on the rail and the handle.
- Attaching the product with non-standard screws may cause damage or the product to fall down. LG Electronics is not liable for any accidents relating to the use of non-standard screws.
- Do not over tighten the screws as this may cause damage to the product and void your warranty."

2 Secure the PC700 to the set using the four screws provided.



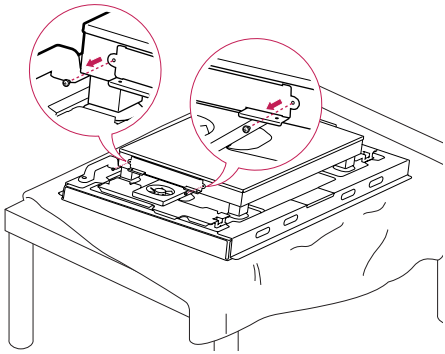
**WX50MF Model

For proper use, it is recommended to use the basic components provided with the PC700 to attach it to a monitor.

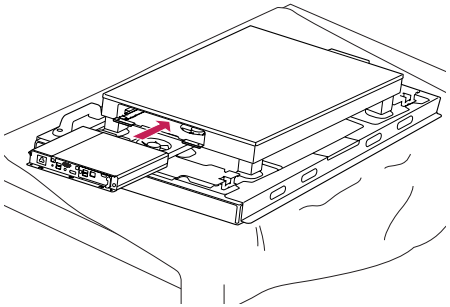
Attention

The illustrations shown are to guide your integration and may differ from your product.

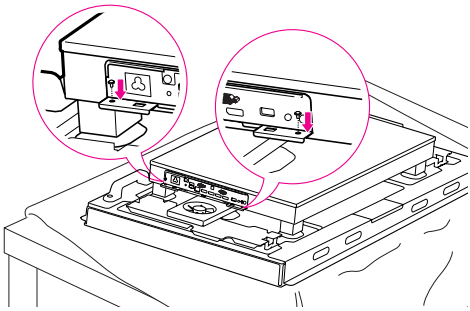
1 Place a soft cloth on the table and put the product on the table with the screen facing downward. Remove the opening cover by unfastening two screws as shown in the picture.



2 Push the PC700 into the compartment to mount it.



3 Secure the PC700 to the product using the two screws provided.



Attention

- Be careful of sharp edges on the rail and the handle.
- Attaching the product with non-standard screws may cause damage or the product to fall down. LG Electronics is not liable for any accidents relating to the use of non-standard screws.
- Do not over tighten the screws as this may cause damage to the product and void your warranty.

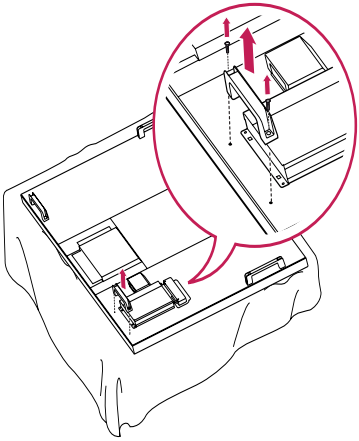
84WS70MS Model

For proper use, it is recommended to use the basic components provided with the PC700 to attach it to a monitor.

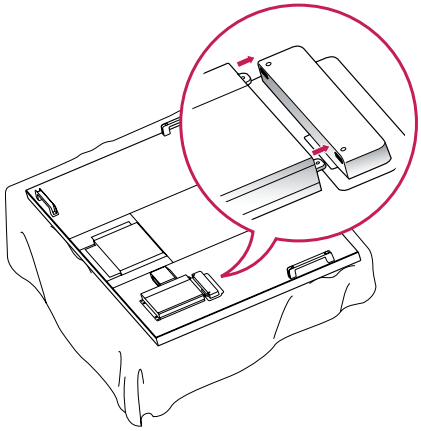
Attention

The illustrations shown are to guide your integration and may differ from your product.

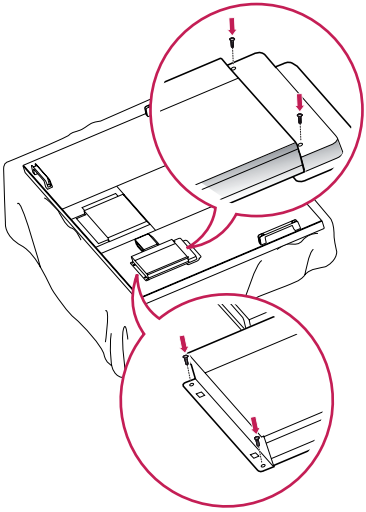
1 Place a soft cloth on the table and put the product on the table with the screen facing downward.Remove the handle at the bottom of the section where the PC700 is mounted from the set.



2 Push the PC700 into the compartment at the back of the set to mount it.



3 Secure the PC700 to the set using the four screws provided.



Note

- Use the screws provided with the product (diameter 3.0 mm x pitch 0.5 mm x length 6.0 mm).

Attention

- Be careful of sharp edges on the rail and the handle.
- Attaching the product with non-standard screws may cause damage or the product to fall down. LG Electronics is not liable for any accidents relating to the use of non-standard screws.
- Do not over tighten the screws as this may cause damage to the product and void your warranty.

In/Out Cable Connection

To view images on the monitor that is not connected to the monitor docking port of PC700, you need to connect the PC700 to the monitor via an RGB or DP Cable.

Attention

- RGB, DP(DisplayPort), LINE-OUT(Audio Port), and LAN cables are not included. You need to purchase these separately, if needed.
- After cabling is complete, assign the SET ID of the monitor to be connected to PC700.
- To configure the SET ID, please refer to the owner's manual for your monitor.

Note

When using the SuperSign Manager software:

- The monitor's SET ID is a unique number used to identify the monitor. You can choose a number from 1 to 25. The SET ID allows the SuperSign Manager software to identify the monitor.
- In order to directly connect the monitor to the PC700, its SET ID must be set to 1.
- To use SuperSign Manager, the monitor that will be connected to a PC700 must support the LG RS232C protocol. A monitor supporting the LG RS232C protocol can be controlled the monitor functions, such as brightness and sound, using SuperSign Manager.

DP to HDMI dongle product list

As the PC700 does not have an HDMI output port, the DP to HDMI converting dongle that supports UHD output should be used if 4K UHD HDMI output is required. Below are the DP to HDMI dongle vendor/product lists. The sale of the products varies depending on the circumstances of each relevant vendor.

- BizLink: KS10047
- Wieson Technologies: G9857C219-026-H

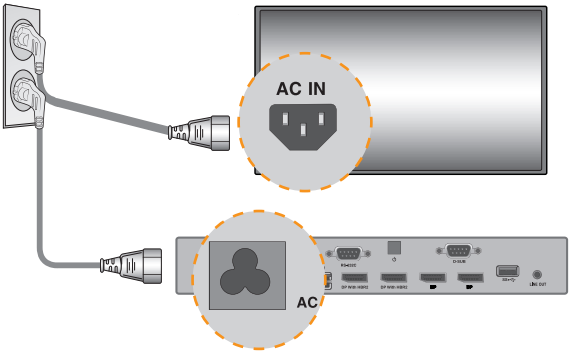
Connecting a Monitor with an RGB Cable

RGB connections does not allow analog video and audio signals to be transferred with one cable.
RGB cable connections require an additional audio in cable.

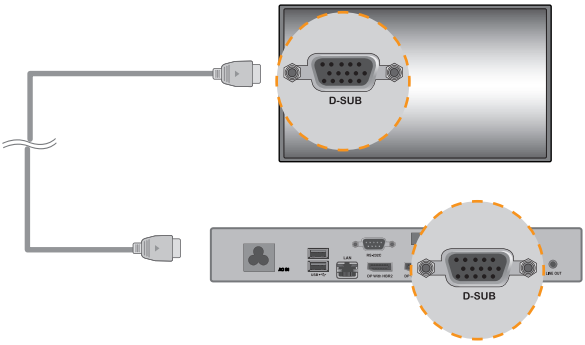
Attention

- The monitor to connect with PC700 should have the RGB-In Connector in for the RGB connection.
- In case of the connection to RGB, 'Line-out' of PC700 should be connected with any speakers for audio system.

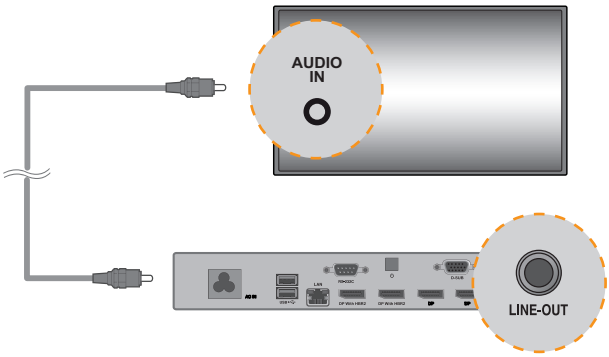
1 Connect the appropriate power cables to a monitor and PC700 respectively.



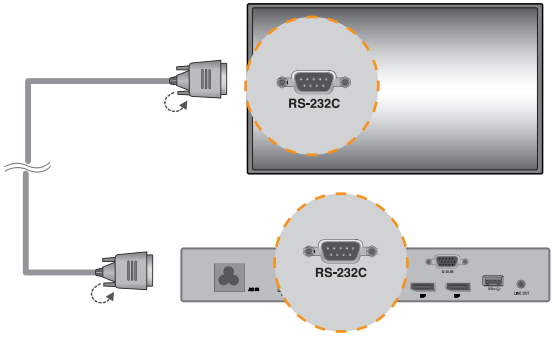
2 Connect PC700 to a monitor with an RGB cable.



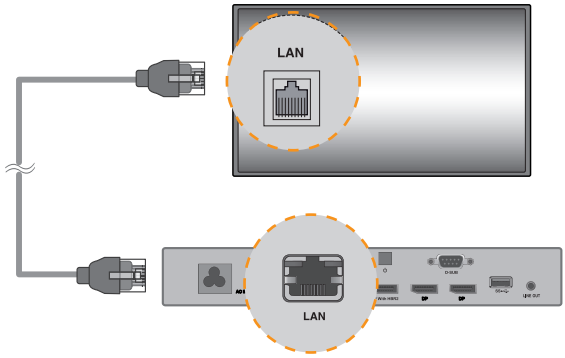
3 Connect the PC700 to the monitor with a LINE-OUT(Audio Out) cable.



4 Connect PC700 (OUT) to the monitor (IN) with an RS-232C cable.



5 Connect a LAN cable to PC700.

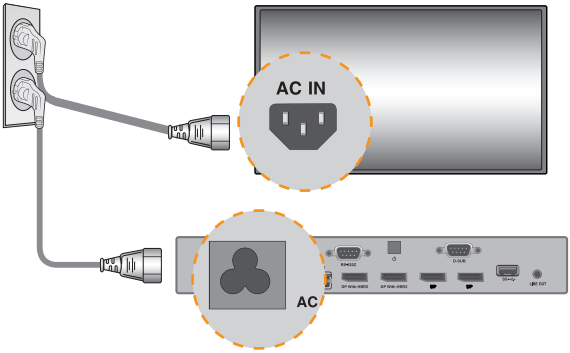


Connecting a Monitor with DP (DisplayPort) Cable

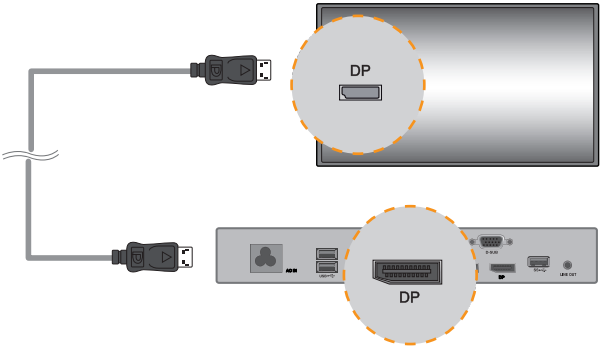
Attention

- To enable DP connection, the monitor that will be connected to PC700 must support the DP input port.
- When connecting the DP (DisplayPort) cable, use the standard cable. Using a non-standard cable may cause a malfunction.

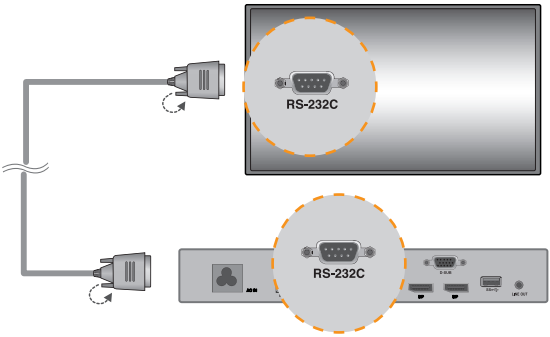
1 Connect the appropriate power cables to a monitor and PC700 respectively.



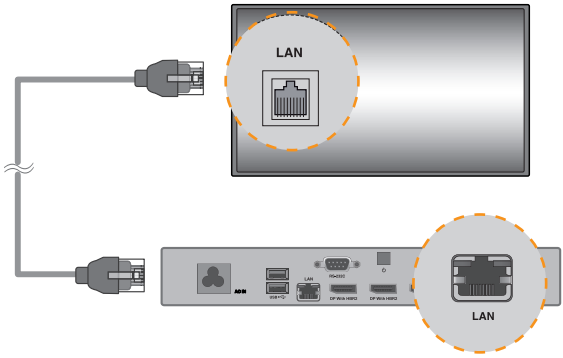
2 Connect PC700 to the monitor via a DP cable.



3 Connect PC700 to the monitor (IN) with an RS-232C cable.



4 Connect a LAN cable to PC700.



Attention

- If you connect multiple cables simultaneously and turn the product on, video output is prioritized accordingly.
- For DP output, the screen is displayed only when the power is turned on after connecting the cables or when the cables are connected after the OS is booted.

Connecting/Disconnecting DP(DisplayPort) Audio Device in Windows Embedded Standard 7P

1	Select **Start > Control Panel > Hardware and Sound > Sound**.
2	Click the **Play** tap first. Right-click on the **DP device** or **speakers** you want and select **Set as Default Device** then click **OK** to connect the audio device or select Disable to disconnect it. ※ In order to change the audio devices, you may restart the computer.

Attention

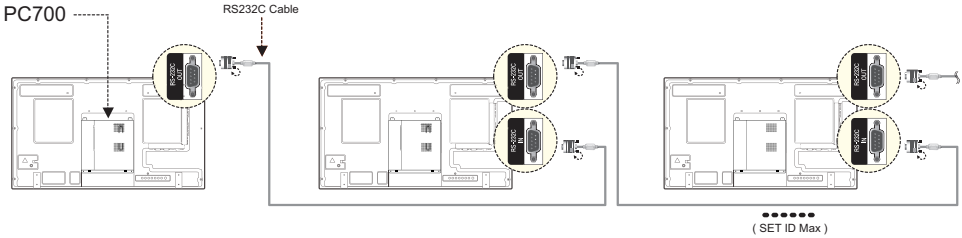
- If an audio device is connected or removed while media content is played, you need to stop the content and play again.
- If an DP cable is removed from the PC700, sound does not play. In addition, when the cable is reconnected, it may take time before sound plays again.

Connection to Multiple Monitors

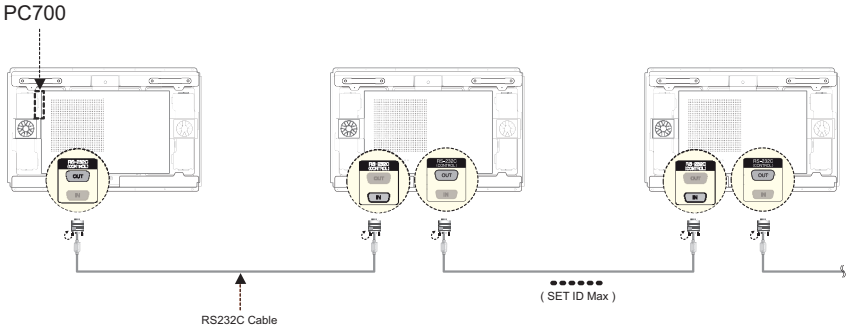
Multiple monitors can be connected to a single PC700. (The maximum number of monitors connected varies depending on the monitor type.) You can set the tile mode by connecting multiple monitors.

1. Connect the RS-232C Out port of the PC700 to the RS-232C In port of the first monitor (SET ID 1).
2. Connect rest of the monitors using a RS-232C cable. (Be careful about input and output ports.)

**WS50



**WX50MF



Attention

- You may want to purchase additional RS-232C cables to use several monitors together.
- You cannot connect multiple monitors using an HDMI cable or DP cable.
- Refer to the owner's manual of the monitor for the SET ID Max. value.

Frequently Asked Questions (FAQs)

Question	Answer
Where can I download the driver file?	You can obtain the file from the SuperSign Support website (http://www.lgsupersign.com).
Where can I get a vaccine program?	This Mini PC comes packaged with the Windows program only. Please purchase a vaccine program separately for use.
The screen resolution is not adequate.	Check whether the screen resolution of Windows is set properly. In case of that the screen resolution is not set automatically, you should set the screen resolution manually because of compatibility with the monitor.
The edges of the image are cropped off.	For some models, you need to set the monitor input to PC mode. For more information, please refer to the owner's manual of your monitor.

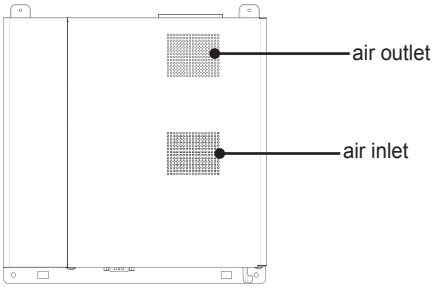
Attention

- Shut down the system properly using the Windows Start menu. Otherwise, this may cause errors such as data loss, which will lead damage to the product.
- Keep the air inlet/outlet at the top of the product from getting clogged by dust or foreign matter and prevent debris from attaching to the fan. Otherwise, this may cause malfunction.
- Avoid using the product in a closed environment which could prevent the flow of the air. Otherwise, this may increase the product temperature, which will prevent it from operating normally and affect the product life.
- Using converting devices, such as DP to HDMI adapter and HDMI to DVI cable, may cause compatibility issues.
- When connecting the PC700 into **WS50, **WX50MF or 84WS70MS through the monitor docking port, set the monitor input to SuperSign.
- When connecting/removing the PC700 into/from the monitor through the monitor docking port, make sure to unplug the power cord connected to monitor and PC700 respectively.
- The following monitors support the connection through the monitor docking port.
  **WS50 (LG Electronics)
  **WX50MF (LG Electronics)
  84WS70MS (LG Electronics)

More models of monitor, which support the connection through the monitor docking port, could be listed.

- Disconnect the power cord first before moving or installing the product. Otherwise, this may result in electric shock.
- 'Make sure to reboot the PC700, when connecting the PC700 through the monitor docking port and using the Factory Reset function.
- Do not touch the air inlet/outlet while it is operating. It may cause burns.
- For FHD playback, the PC700 is optimized for 4-unit playback.
- The PC700 can play back one UHD unit, and there are different recommended bitrates according to CPU specifications.

-PC700-Cxxx (i5-3610ME): Average bitrate 80 Mbps (H.264/AVC)
-PC700-Dxxx (i7-3610QE): Average bitrate 120 Mbps (H.264/AVC)



Attention

- Certain USB devices may not be recognized when they are connected to the PC700.
- For display output connection of the PC700, from the third monitor on, connect monitors via DP.
- When disconnecting port cables, disconnect the RGB or RS232 port cables before disconnecting the LAN or DP port cables.
- When using Eyefinity, we recommend that the same monitors are used.
- Because this version of OS does not include hotfixes and service packs, we recommend that you install these separately.
- For UHD video playback, even if the video is played back on devices with the same specification, playback performance may differ depending on the video compression methods, decoders, and playback software used. To play back the videos in UHD resolution without problems, ask software manufacturers for verified codecs. The latest version of a codec package is the most advantageous for UHD playback support. If you wish to use a FFMPEG-based unified codec package, use one created after September 2012. You can download unified codec packages such as Z codec and K-Lite codec from the Internet.

Installation of K-Lite codec packages or recommended videos by FFMPEG-based playback software

→ PC700-Cxxx (i5-3610ME): Average bitrate 80Mbps (H.264/AVC/MPEG2)

→ PC700-Dxxx (i7-3610QE): Average bitrate 120Mbps (H.264/AVC/MPEG2)

- If you are unable to change the screen settings for Eyefinity, you can change them as follows.

1. Start AMD Catalyst. Select Advanced View from Preferences.
2. Restart "Create Eyefinity Display Group" on AMD Eyefinity Multi-Display.
3. Now you can see that all monitors are set to 1 on the Desktop Management tab of Catalyst.

Select monitors and set them to "Disable" →"Extended mode".

4. Restart "Create Eyefinity Display Group".

- Refer to the link below for information on AMD Eyefinity settings. http://support.amd.com/us/kbarticles/Pages/gpu50-ati-eyefinity-display-groups.aspx
- If you wish to install additional programs on this device, we recommend you to install 64-bit Windows-based programs. Otherwise, there may be compatibility issues.
- For the UHD DP connection, connect a cable that supports HBR2 or higher to the 'DP With HBR2' port.
- To enjoy the multi-display function with the PC700, you must use the Catalyst Control Center. If you extend your display through display settings in Windows, you may experience abnormal display, such as video lagging or overlapping.
- Text may appear corrupted if you are using a program that does not support Unicode.
  In this case, go to Start → Control Panel → Region and Language → Administrative → Language for non-Unicode programs → Change system locale and select an appropriate option for your country. Please note that, depending on the program, this issue may not be solved with a settings change.

Unified Codecs

You need to install codecs required to play videos. Video files may require different codecs for playing. Web-sites to download unified codecs are listed below:

- *http://www.codecguide.com*
- *http://shark007.net*
- *http://www.free-codecs.com*

Note

- The websites above are not related to LG Electronics, and are subject to change.
- Visit their websites for details about the codec license.
- Make sure that a codec required to play the content you require is included in the download package before you install it.
- Avoid duplicate installations of a codec package.
- If you want to install a different code package, uninstall the previous codec first.

Network Setting

As there are various network connection methods, please follow the specifications of your carrier or those of your Internet service provider.

1. If you cannot connect to the network, check the following.

a. Check whether the network connection tray icon is displayed as shown below.



If it is not displayed as above, it indicates that the network cable is not connected correctly or that there is a problem with your network system. In this case, check the network cable connection or contact your network system administrator.

b.If you cannot connect to the network even though the tray icon is correctly displayed, make sure that the IP is set correctly by following the procedure below.

● Click the Start buttonv→ Control Panel → Network and Internet → Network and Sharing Center and then on the left menu, click → "Change adapter settings".

- Right-click the Local Area Connection icon to open a pop-up menu and go to the "Properties" menu.
- In the Properties pop-up, select "Internet Protocol Version 4 (TCP/IPv4)" and double-click it.
- Check that the IP is set to "Fixed IP" in the IP settings window.
- If IP is set to "Fixed IP", change it to the DHCP setting (Automatic) and re-check the network connection.

Attention

- If you have to use a fixed IP due to your network environment, change the settings according to the instructions below and then check the network connection.
  a. As per the procedure described in the item 1 above, set the IP to DHCP in the Internet Protocol Properties window.
  b. Click the Start button and click through All Programs Accessories Command Prompt to open the DOS window.
  c. In the DOS window, type "ipconfig" to check your current IP.
  d. Open the Internet Protocol Properties window again, and type in the IP address received from the ipconfig command or an IP address of the same bandwidth.

2. The hub (router/switch) connection may be configured as described below.

a. Turn the router power on.
b. Connect the router port (excluding the WAN port) and the network port of the PC700 using a network cable.
c. As in step "a" of item 1, check if the tray icon is displayed correctly. If it is not displayed correctly, go through the whole procedure in item 1 to check your network settings.
d. If you wish to connect to an external network, connect the external network cable to the WAN port.

Attention

- Use a standard LAN cable (CAT5 or higher with a RJ45 connector).
- LG Electronics is not responsible for the Internet disconnection due to problems with or malfunctions of other connected devices. LG Electronics is not liable for any problems related to the Internet connection.



Make sure to read the Important Precautions before using the product.
Keep the Owner's Manual(CD) in an accessible place for furture reference.
The model and serial number of the SET is 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.