



OWNER'S MANUAL

LG LED Screen

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

GSEH060-GR

www.lg.com

Copyright © 2021 LG Electronics Inc. All Rights Reserved.

TABLE OF CONTENTS

SAFETY PRECAUTIONS.....3

- Precautions for the AC Adapter and Power..... 4
- Precautions for Moving the Product.....6
- Precautions for Installing the Product.....7
- Precautions for Cleaning the Product.....9
- Precautions for Using the Product.....10
- Precautions for Using the Remote control.....12
- Precautions for Experiencing Image Retention.....13
- Product Disposal.....13

ASSEMBLY 14

- General.....14
- Main Assemblies.....14
- Mechanical Assembly.....16
- Installation Guidelines.....18
- Electrical.....23
- Power Cable Wiring.....25

TROUBLESHOOTING26

PRODUCT SPECIFICATIONS.....37

LICENSES.....39

WARNING - This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

SAFETY PRECAUTIONS

The Safety Precautions are intended to prevent unexpected danger or harm by helping the user to use the product safely and for its intended purpose.

WARNING

If you ignore the warning message, you may be seriously injured or there is a possibility of accident or death.

CAUTION

If you ignore the caution message, you may be slightly injured or the product may be damaged.

WARNING

This product cannot be installed outdoors. Only use the product indoors as installed by the installer.

Precautions for the AC Adapter and Power

WARNING

- Use only the power cord or AC adapter provided or approved by LG Electronics, Inc. If you use another power cord, make sure that it is certified by the national standards. If the power cable is faulty in any way, please contact the manufacturer or the nearest authorized service center for a replacement.
- 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 installation company.
- Make sure the power cord connect to a properly grounded outlet.
 - If you do not you may be electrocuted or injured or the product can be damaged.
- Insert the power plug or AC adapter firmly so it cannot come loose.
 - Poor connection may cause a fire or electric shock.
- 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.
- Be careful not to step or place heavy objects (electronic appliances, clothing, etc.) on the power cord or AC adapter. Additionally, do not bend or pull out the power cord or AC adapter with excessive force.
 - Damaged power cords may cause a fire or electric shock.
- Do not connect power cord or AC adapter damaged with sharp objects to power outlet.
 - You may be electrocuted.
- Do not insert a conductor (like a metal chopstick) into one end of the power cord while the other end is connected to the input terminal on the wall. Additionally, do not touch the power cord right after unplugged.
 - You may be electrocuted.
- Do not use with a multi-outlet connected by many electrical product and heating devices. Use an exclusive multi- outlet with a grounding terminal.
 - A fire can break out due to overheating.

- If water or any foreign substance goes inside the product, disconnect the power cord immediately and contact the service center.
 - Otherwise, this may cause a fire or electric shock due to damage to the product.
- Keep the power cord or AC adapter away from any heating devices.
 - The cord coating may melt and cause fire or electric shock.
- Never disassemble, repair or modify the power cord or AC adapter.
 - This may cause a fire or electric shock.
- Please make sure the main power cutoff device is power cord and the product is installed near the wall outlet that is easily accessible.
- 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.
- Power consumption will be '0' only when the power plug is unplugged.
- Use an appliance coupler as a disconnect device.

CAUTION

- If the outlet, pins of the power plug, or AC adapter is covered with dust, be sure wipe and keep clean.
 - Overheating due to layers of dust may cause a fire or electric shock.
- If the outlet, pins of the power plug, or AC adapter is covered with water, be sure wipe and keep clean. Additionally, Do not touch the power plug or AC adapter with wet hands.
 - This may cause an electric shock.
- Do not turn the product on or off by plugging in or unplugging the power plug from the power outlet. It means do not use the power plug as a switch.
 - This may cause an electric shock or product malfunction.
- Do not unplug the power cord while the product is in use.
 - Electrical shock can damage the product.

Precautions for Moving the Product

WARNING

- Contact the service center before moving the product.
 - It may cause electric shock and damage the product.
- Make sure the product is turned off, unplugged, and all cables have been removed before the product is moved.
 - You may be electrocuted or the product can be damaged.
- When moving the product, Do not shock the product and impact on the front panel of the product.
 - You may be electrocuted or the product can be damaged.
- Comply with the number of people according to weight of product. (Under 25 kg per person, use the equipment when exceed 100 kg)
 - If use the damaged product again, contact the service center because it can cause electric shock or fire.
- Do not hold it upside down while holding only the stand. (It is for stand supported models only.)
 - This may cause stand warping, panel damage and other types of product damage.

CAUTION

- Do not dispose the product-packing box. It may be used put the product in the box when carrying it.

Precautions for Installing the Product

WARNING

- Contact the service center before installing the product.
 - It can cause electric shock and damage the product.
- Do not drop an object on or impact on the product. Keep out of reach of children and do not place toys or objects near the product to prevent throwing things on the product screen.
 - It can cause injury to human, problem to product and damage the display.
- Do not put heavy objects on, or hang from, the product.
 - If the product collapses or is dropped, you may be injured.
- Do not touch the surface of product to overheat.
 - It can cause injury to human.
- Install the product firmly fixed on a floor, wall, etc. to prepare against external impact such as wind and earthquake.
 - You must refer to the manual provided.
- Prevent Children from climbing or hanging on the product.
 - If the product collapses or is dropped, you may be injured.
- Do not install it where there are heating devices such as electrical heaters or lighting equipment.
 - Fire, electrical shock, malfunction may occur.
- Do not install this product by yourself as you may injure yourself or cause damage to product. Please contact service engineer authorized by service center.
- 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.
- Do not leave the power or signal cable, etc. on the pathway.
 - This could cause a trip or fall, which can be caused electrical shock, fire, product breakdown, or injury.
- Do not let the product drop when connecting it to an external device connected with a short cable.
 - This may cause injury and damage to the product.
- If you dropped the product or the case is broken, turn off the product and unplug the power cord and contact the service center.
 - If you continue to use without taking proper measures, electrical shock or fire can occur.
- Install the product in a dry place where it is not near dust and water. Avoid high temperatures and humidity.
 - This may cause electrical shock, fire or product damage.
- Safely install the product in a place that can hold the weight of the product.
 - A lack of strength may cause the product to fall.
- Take a comfortable and natural position to relax the muscles when working with a product.
- Caution to prevent damage to the LED from static. Do not touch the product without anti-static gloves.

**CAUTION**

- Install the product where no Electromagnetic Interference occurs.
- If you install the product in a place that does not meet the recommended conditions, this may cause serious damage to the product's picture quality, life cycle, and appearance. Please check with service engineer before installing. Please do not install the product in places such as where there is an abundance of fine dust or oil mist, chemical substances are used, exposed to direct sunlight, the temperature is very high or low, the humidity is very high.
- Make sure the product is well ventilated by Installing at a distance (100 mm or more) 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 buildup.
- Do not cover the product with tablecloth or curtain or other material (eg. plastic) while plugged in to block the ventilation hole of the product.
 - The product can be deformed or fire can break out due to overheating inside the product.
- Do not install the product in an area with poor ventilation (e.g. on a bookshelf, in a closet) or outside and avoid placing on cushions or carpets.
 - The product could catch fire due to overheating inside the product.
- Install the product on a flat and stable place that is large enough to support the product.
 - If the product is dropped, you may be injured or the product may be broken.
- When installing the product on a shelf or cabinet, make sure that the bottom end of the product is not protruding forward.
 - The product may fall due to unbalanced center of gravity, which may cause personal injury or damage to the product. Be sure to use cabinets or shelves that fit your product.

Precautions for Cleaning the Product

WARNING

- Keep the product clean at all times.
 - If you don't clean the unit for a long time and it becomes covered in dust, it can cause fire or product damage.
- When you need to clean the inside of the product, you must contact the service center.
 - Otherwise, cleaning without support may cause a fire, electric shock, or damage to the product.
- When cleaning the product, unplug the power cord and wipe gently with a soft cloth to prevent scratching.
 - An electric shock may occur or damage to the screen as get a scratch.
- When you want to clean the front frame, spray water onto a soft cloth 2 to 4 times and wipe in one direction only.
 - Too much moisture may cause staining.
- Do not physically come in contact with the screen of the LED Package.
 - This may cause damage to the product.
- To clean the product, use an air gun to lightly remove dust from the front frame and the screen.
 - If there are foreign substances in between the LEDs on the screen, it may cause a defect in the screen.

CAUTION

- When cleaning the product or the screen, unplug the power cord and wipe it gently with a soft cloth. Do not spray water or other liquids directly on the product. Especially, do not clean your product with chemicals including glass cleaner, any type of air freshener, insecticide, lubricants, wax (car, industrial), abrasive, thinner, benzene, alcohol, etc., which can damage the product or its panel.
 - This may result in fire, electric shock or product damage (deformation, corrosion or breakage).

Precautions for Using the Product

WARNING

- Do not use the product in any environment with excessively high temperatures or humidity.
- If you use the product for a long period of time, take a rest from time to time to protect your vision.
 - Extended viewing could result in impaired vision.
- Listening at high volume or using for a long time can cause damage to your hearing.
- In the event that liquid or a foreign object falls into the product, please switch it off and unplug it from the wall outlet and contact the service center.
 - Otherwise, the product may cause fire or electric shock.
- In the event that no image appears on the screen or no sound is heard, stop using the product. Switch it off immediately, unplug it from the power outlet and contact the service center.
 - Otherwise, the product may cause fire or electric shock.
- Do not drop an object or impact on the product or screen.
 - It can cause injury to human, problem to product and damage the screen.
- If you can smell smoke or other odors or hear a strange sound, unplug the power cord and contact the service center.
 - If you continue to use the product without taking proper measures, it may cause electrical shock or fire.
- Do not attempt to disassemble, repair or modify the product yourself. Please contact service center if you need to repair it.
 - Fire or electric shock can occur.
- Do not place objects filled with liquids, such as vases, cups, etc. on over of the product to prevent liquid from entering the product.
 - Failure to do so may result in fire, electric shock, malfunction or deformation.
- Do not push hard on or scratch the product's surface with your hands or sharp objects, such as nails, pencils or pens. Do not shock or scratch the front and sides of the screen with metallic objects.
 - This may damage the products and cause it to malfunction.
- Do not touch the product if it has been exposed to sunlight or an intense light because it could be hot.

- Do not use high voltage electrical goods near the product (e.g., a bug zapper).
 - This may result in product malfunction if it receives an electrical shock.
- If there is a gas leak, do not touch the outlet, and open the windows for ventilation.
 - Otherwise, the product may cause fire or electric shock.
- 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 the service center.
- Keep small accessories out of the reach of children.
 - If a child swallows it, consult a doctor immediately.
- Keep out of reach of children from the product. Also, do not throw toys or objects to the product or screen.
 - It can cause injury to human, problem to product and damage the screen.
- All the power sources must be disconnected by removing the power cables to remove all power from the unit.

CAUTION

- This panel is an advanced product that contains millions of pixels. You may occasionally see pixel spots when viewing the screen. Since these deactivated pixels are not a defect, the performance and reliability of the product is not affected.
- Do not put or store inflammable substances near the product.
 - There is a danger of explosion or fire.
- Keep the proper distance from the product.
 - It can cause damage to your vision if you look at the product too closely.
- Set the appropriate resolution and frequency by products.
 - It can cause damage to your vision.
- Take a regular break when working with the product for a long time.

Precautions for Using the Remote control

WARNING

- Avoid places with high humidity.
 - It may cause electrical shock or damage the product.
- Do not expose batteries to excessive heat, such as direct sunlight, open fireplace, and electric heaters.
 - It may cause fire and you may be injured.
- Make sure that children do not swallow the remote control batteries when you replace them. Keep batteries out of reach of children.
 - If a child swallows a battery, consult a doctor immediately.
- Do not dispose of batteries in a fire.
 - Please dispose batteries at a local recycling center or a retail store that handles batteries.
- Used batteries, which include rechargeable batteries, should be recycled separately from waste.
 - Please dispose used batteries and rechargeable batteries at a local recycling center or a retail store that handles batteries.

CAUTION

- Do not short circuit and disassemble of batteries.
 - It may cause electrical shock or fire.
- The remote control may not function properly in sunlight or under a strong lamp. Move the product if it is being used in these conditions.
- Check if there is any obstacle between the product and the remote control.
- Do not mix new batteries with old batteries.
 - Overheating or leaking batteries may cause fire or electric shock.
- Only use the specified type of battery. Do not insert batteries that are not rechargeable into the charger.
 - Overheating or leaking batteries may cause fire or electric shock.

Precautions for Experiencing Image Retention

- Displaying a still image for a prolonged period of time may cause damage to the screen, resulting in image retention. Most third-party products have the same issue. The resulting damage is not covered by the product warranty.
 - Use a screen saver when using the monitor for a prolonged period of time.

Product Disposal

- 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.

ASSEMBLY

General

This manual provides an overview of the GSEH060-GR LED display system, the main system components and interconnection methods. If any details in this document are unclear, please contact your local representative, or the head office for more details.

Brief Description of Purpose and Operation of System

The GSEH060-GR LED display system is designed for outdoor use, where a high quality dynamic image is to be made visible to large numbers of people. The panel size is designed from the beginning according to end-user requirements.

Main Assemblies

GSEH060-GR Panel Assembly

Each GSEH060-GR LED panel comprises an outer cladding panel with integral aluminum framework for increased rigidity and a central stacker for the fast rigging. The panel is designed to be mounted to a fixed framework.

The listing in Table 2.1 is the main components of a GSEH060-GR LED panel. The profile of the panel is shown in Figure 2.1.

Component Placement and main components

There are 3 kinds of system board worked for the LED display, they are LCLH002 Receiver Board , LCLH002 Conversion Board and LCLH002 Converter Board . Please refer to the description for each board in the follow sections.

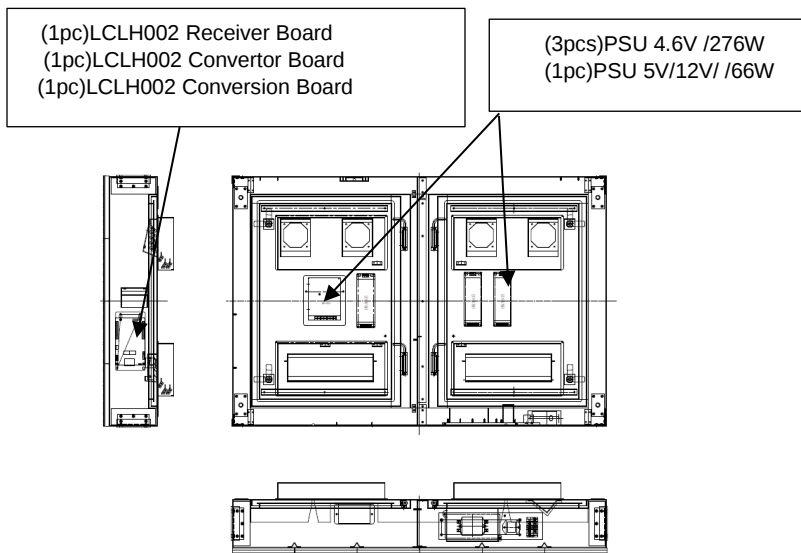


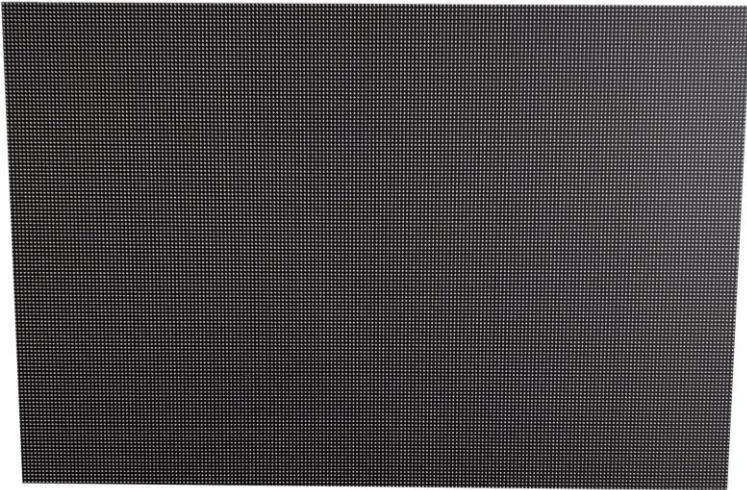
Figure 2.1 Major components placement for GSEH060-GR

Item	Description	Qty
1	LED Display Modules (LDM)	24
2	LCLH002 Receiver Board	1
3	LCLH002 Converter Board	1
4	LCLH002 Conversion Board	1
5	4.6V /276W Switched Mode Power Supply	3
6	5V/12V/ /66W Switched Mode Power Supply	1
7	EMI Filter	1

Note: The PSU output is adjustable, the actual value would subject to the label of manufacturing data

Table 2.1 - Major components of GSEH060-GR LED panel assembly

MECHANICAL ASSEMBLY

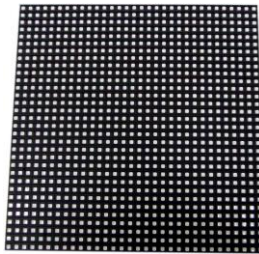


LED Display Module (LDM)

The front face of the GSEH060-GR LED display is fitted with 24 light emitting diode (LED) dot LED modules known as LDMs. Each LMD is fitted with 1024 LEDs* plus associated drive electronics. Electrical connections (low voltage power, and digital data) are made to the rear of each LDM, from inside of the enclosure.

Figures 3 and 4 are showing the front and rear views of an GSEH060-GR LDM.

* Remark: each LDM contains 32 x32 pixels (row x column), so there are totally 1024 LEDs fitted on the front face of an LDM.



Figures 3. LDM - front view



Figures 4. LDM - rear view

Installation Guidelines

The GSEH060-GR system is designed to be permanently installed into a purpose built framework .When installing panels, it is important to adopt a methodical to ensure that the entire screen is correctly aligned, both vertically and horizontally.

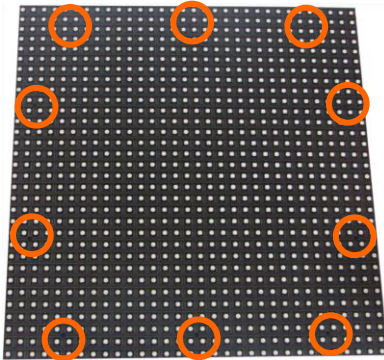
We recommend that a framework-mounted screen be installed starting from the bottom row, then moving up to the top row. A suspended screen should be installed starting from the top row, then moving down to the bottom row.

Note: It is the customer's responsibility to ensure that any framework or suspended support design used in a particular installation is fit for purpose and carries any necessary approvals.

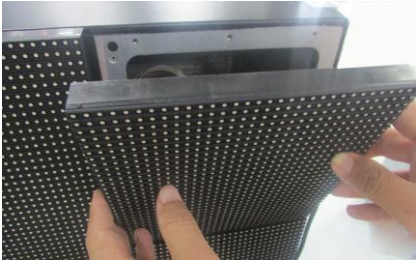
1) How to Maintain LDM



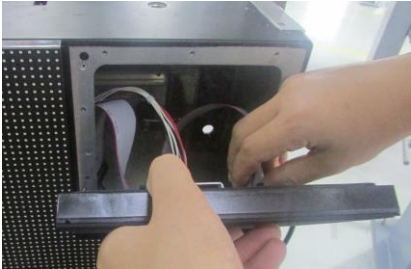
The screwdriver is for IM front access.



Step1. Locate a malfunction IM.
Loose the screws. (There are 10 screws for fixing each IM.)



Step2. Take the IM out from panel case.



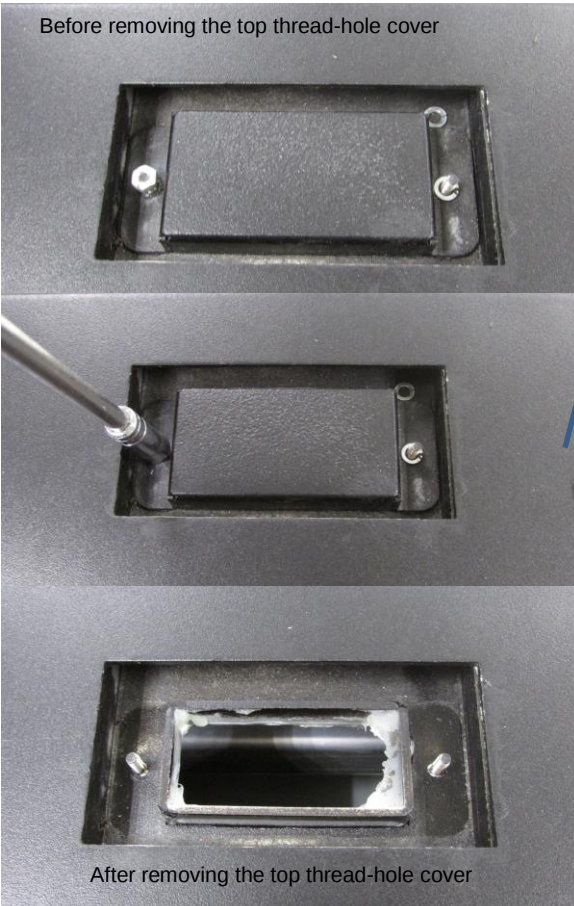
Step3. Unplug power cable ,data cables and safety wire from the IM. Pay much attention not to drop down the IM.



*Do the reverse to mounting the new IM.

2) Adding a Rectangular Rubber

Adding a rectangular rubber for panel thread hole to enhance waterproof effect.

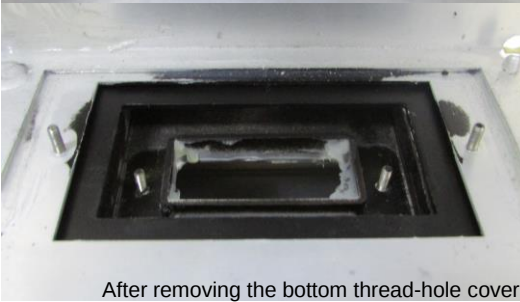


Step1. Remove the panel thread-hole cover at the panel top after loosening the 2 screws with a M3 screwdriver.

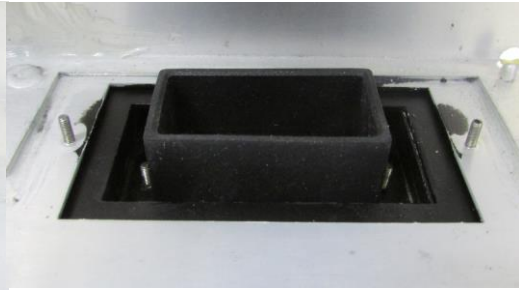
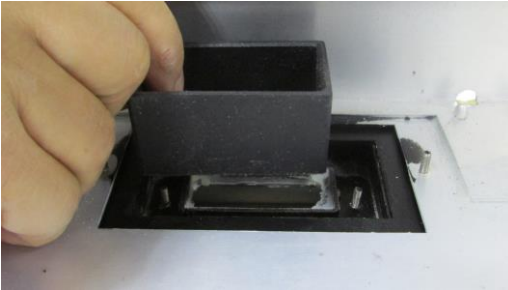
Step2. After removing the panel top thread-hole cover, put another panel on it to make 2 panels overlap. Then remove the upper panel bottom thread-hole cover.



Step3. Remove the panel thread-hole cover at the panel bottom after loosening the 2 screws with a M3 screwdriver.



Step4. Put a rectangular rubber at the specified position.



Step5. Finish the operation. The following picture is the waterproof effect simple test.



3) Removable Door

This type of panel is similar to the panel unit which is designed to maintain from front. But the type of panel unit has to be designed with a postern door. And we can do maintenance of the panel unit front and rear.

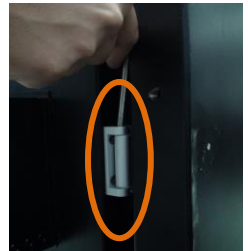


The equipped key

First, turn the 3 side-locks clockwise with the equipment key.



Second, take the 3 L bolts out vertically from a panel unit.



Third, after loosening the 3 side-locks and taking the 3 L bolts out, you can take the removable door carefully and slowly.



Electrical

The power distribution system used must provide adequate protection against excess line current and leakage currents to earth.

Electrical Characteristics for ONE GSEH060-GR							
At 100V AC Input				At 240V AC Input			
Parameter	Unit	Rating		Parameter	Unit	Rating	
		Normal	Max			Normal	Max
Input current	A	3.20	8.0	Input current	A	1.33	3.33
Input freq.	Hz	50 - 60	65	Input freq.	Hz	50 - 60	65
Power	W	320	800	Power	W	320	800

Circuit Protection

Each section of the screen should be protected by a Circuit Breaker to protect against high fault currents, and a Residual Current Device (RCD) to detect earth leakage currents.

Earth Leakage Considerations

Each panel of the system has earth leakage current contributions from four switched-mode power supplies and one EMI filter. The total earth leakage current per panel can be up to 5.6mA at 240V. If a 30mA RCD is used, then the maximum number of panels per section should be safely limited to 5.

Inrush-current and Over-current Considerations

The inrush current of the switched mode power supplies used to provide LED and logic power to each panel is specified by the manufacturer as equal or less than 220A at 220 volts when cold start. However, maximum current in the steady-state for a panel is considerably less: 3.33A at 240 volts and 8.0A at 100 volts. The circuit breaker used to control a section of the screen must be able to handle the short-term inrush current at switch-on, without causing unnecessary disconnection of the supply, and be able to detect excess currents due to faults within the equipment, during normal operation.

Earthing

Each panel is separately connected to the AC power distribution system's earth through the appliance coupler. All exposed panel metalwork (main frame) is also connected to this earth.

If the framework is earthed only through each panel (i.e. through the panel's mounting bolts), there is a possibility of electrical damage if a wiring fault occurs, or if an electrical discharge, such as lightning strike, hits the panels. Under these circumstances, the current discharge path will be through the panel to earth rather than through the framework to earth. When permanently installed on a metal framework, the framework itself should be directly connected to earth also.

CE-EMC Statement

This product has been certificated by CE. Installations should be located at least 30 meters from other sensitive systems or installations and if situated in close proximity to a roadway it may create interference to vehicle radio communications.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

*Note: Modifications not authorized by the manufacturer may void users authority to operate this device.

Power Cable Wiring

AC Power

An approved three-pole appliance coupler inside the panel connects to the AC supply. The AC power cable is then connected to the EMI filter and distributes to the power supply units. Each panel has an earth point for grounding.

Colour of Wire	A.C. Supply connection (for 100V)	A.C. Supply connection (for 240V)
Brown	AC. Live	AC. Live
Blue	AC. Neutral	AC. Neutral
Green/Yellow	AC. Protective earth	AC. Protective earth

DC Power

DC power from each power supply unit provides low voltage power to the assigned electronics components, for example, driver board, and fans, the responding color of the wire represents the relevant component’s power connection, please note the list below for a clear cabling configuration.

Colour of wire	D.C. Supply connection
White	Green LED / Blue LED / Red LED /TTL
Black	GND

TROUBLESHOOTING

LDM problems

- When you find the panel is malfunctioning, you can replace it with the following procedure
 1. Power off the panel and unplug the power cable;
 2. Locate the problem LDM;
 3. Dismount the problem LDM from the panel; (Refer to page 18 and 21)
 4. Mount the LDM back to the same position as the problem one;
 5. Make sure the LDM is firmly mounted;
 6. Power on the panel;
 7. Please make sure the replaced LDM is functioning well.

PSU problems

1. Power off the panel and open the PSU box;
2. Locate the problem PSU;
3. Loose the screws, discharge the DC and AC wirings, and then loose the PSU fix plate;
4. Fix a new PSU with the same type; make sure the data in the voltage label is the same as the old one;
5. Connect the DC and AC wirings to corresponding ports of the PSU.

The convertor board problems

1. Power off the panel and open the PSU box;
2. Locate the problem LCLH002 convertor board;
3. Remove the flat data cables from the board;
4. Replace with a new LCLH002 convertor board and do the inverse of the above.

The receiver board problems

1. Power off the panel and open the PSU box;
2. Locate the problem LCLH002 receiver board;
3. Unplug all of the power & data cable from it;
4. Replace with a new LCLH002 receiver board;
5. Power on the panel;
6. Manage data to the new LCLH002 receiver board. The operation procedures are as follows.

- a) Click "Screen configuration" → "Receiving Card", Click "Read from Recive..."(Figure A-1).

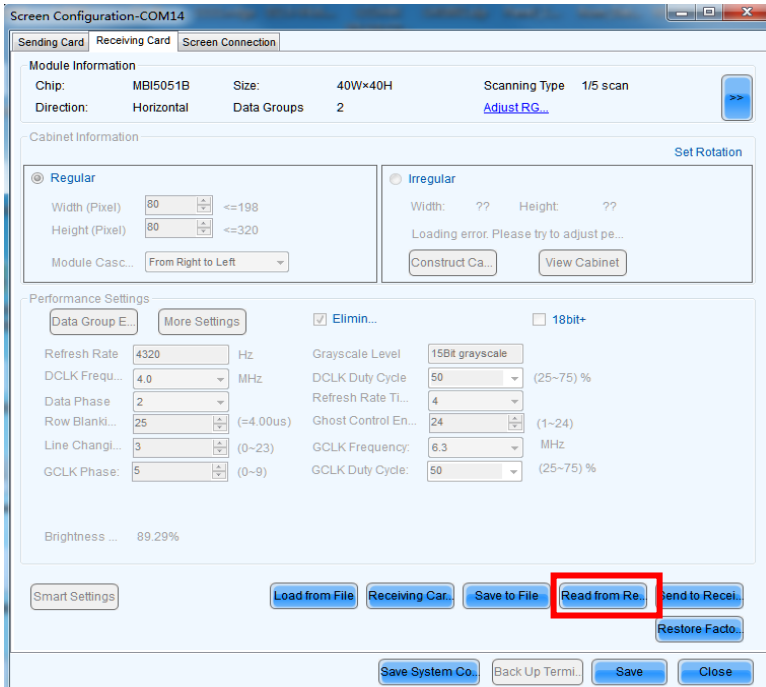


Figure A-1

- b) Select a receiver board which drives same pixels as the replaced one and functions normally, according to its position, input the parameter about sequence number of "Sending ...", "Port Nu..." and "Receining...", then click "OK" to read its data (Figure A-2).

*If there is no receiver board which drives same pixels as the replaced one and functions normally, you should click "Load File" to load the screen or specific config. file and send to all or specific receiver boards.

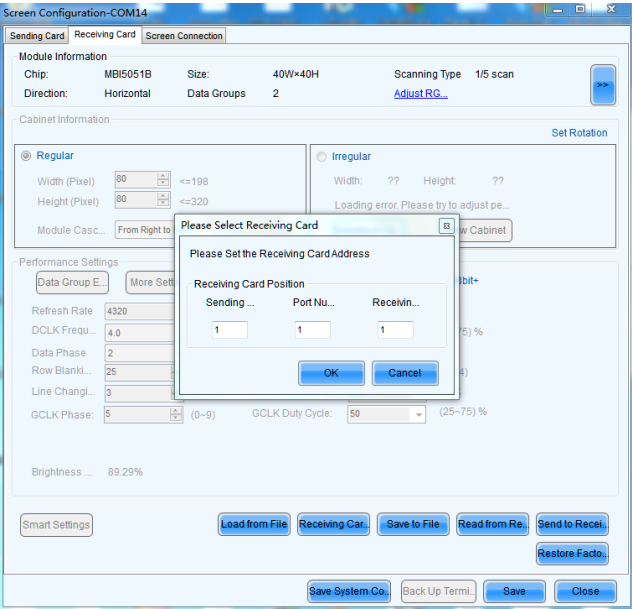


Figure A-2

c)The dialog box pops up as Figure A-3, “Read information from receiving card successfully”, click "OK".

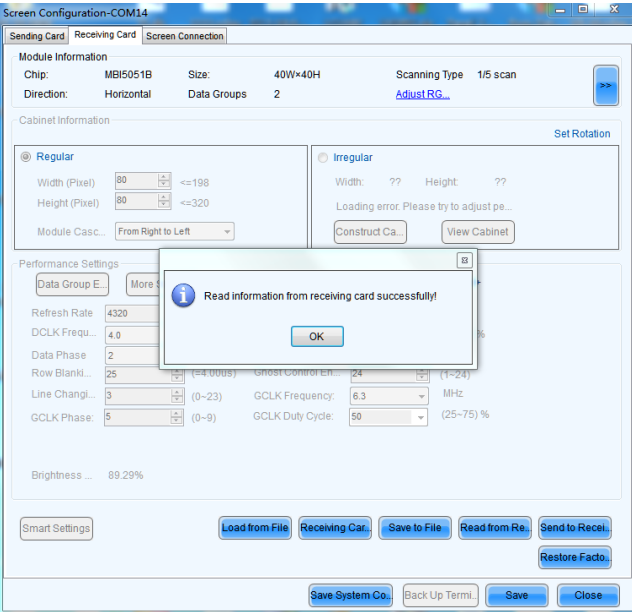


Figure A-3

d) Then click “Send to Recei...”. And select “Specific Receiving Card”. (Figure A-4).

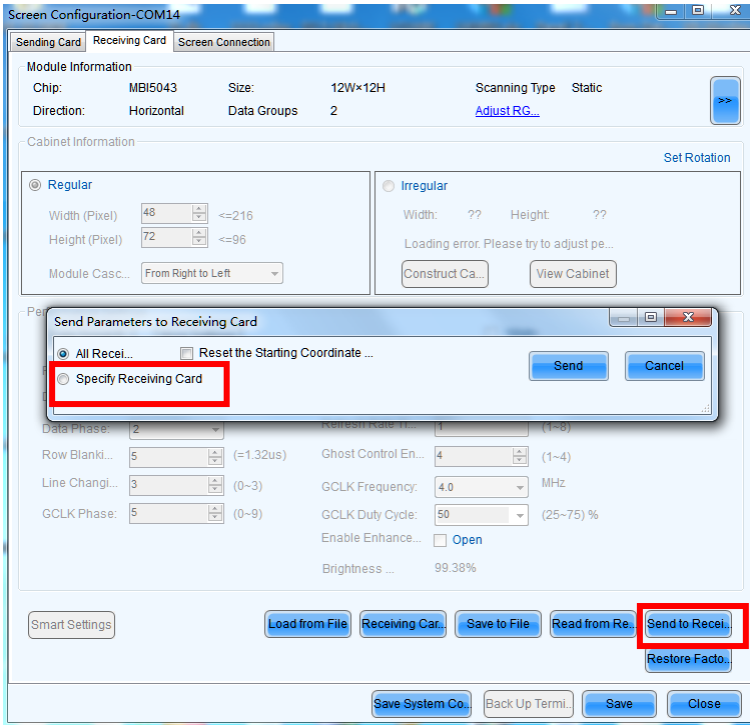


Figure A-4

e) There are 2 operation methods to send parameters to the replaced receiver card, “Send By Physical Address” or “Send By Topology”. You should select one to send receiver card parameters. For example, Send By Topology. Click “Select by Topology”, then select the receiver card you want to send the parameters, click “Send”.

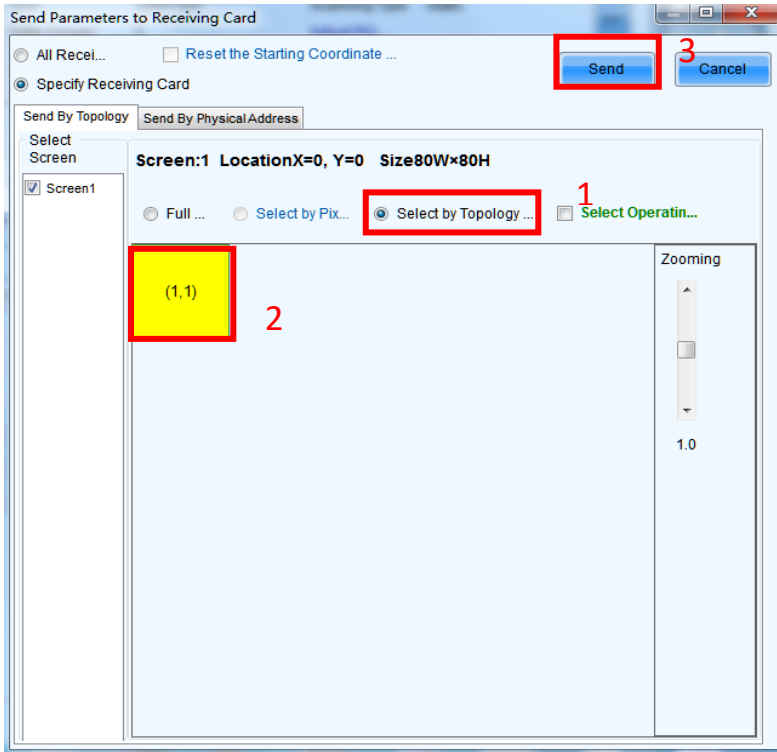


Figure A-5

f) Until "Send parameters successfully". Click "OK".

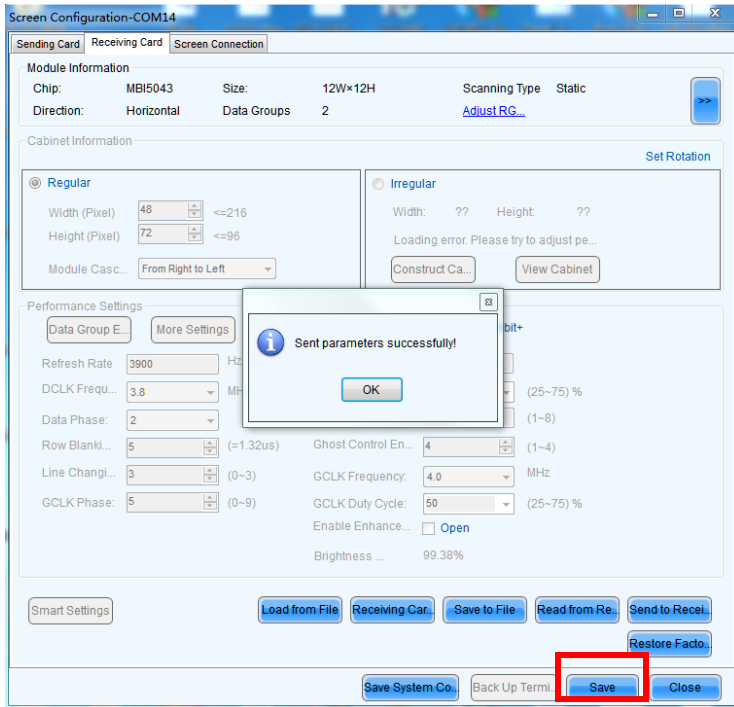


Figure A-6

g) After that, you have to click “Save” to save the data.

h) Click “Calibration” to open Screen Calibration interface, enter password “novastar”, click “Manage Coefficients”.

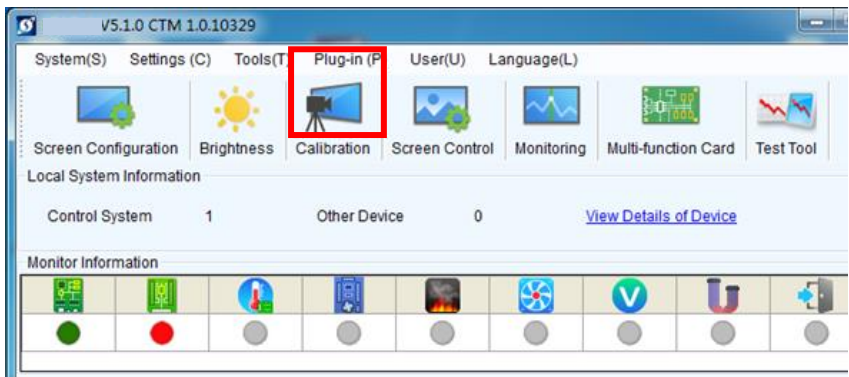


Figure A-7

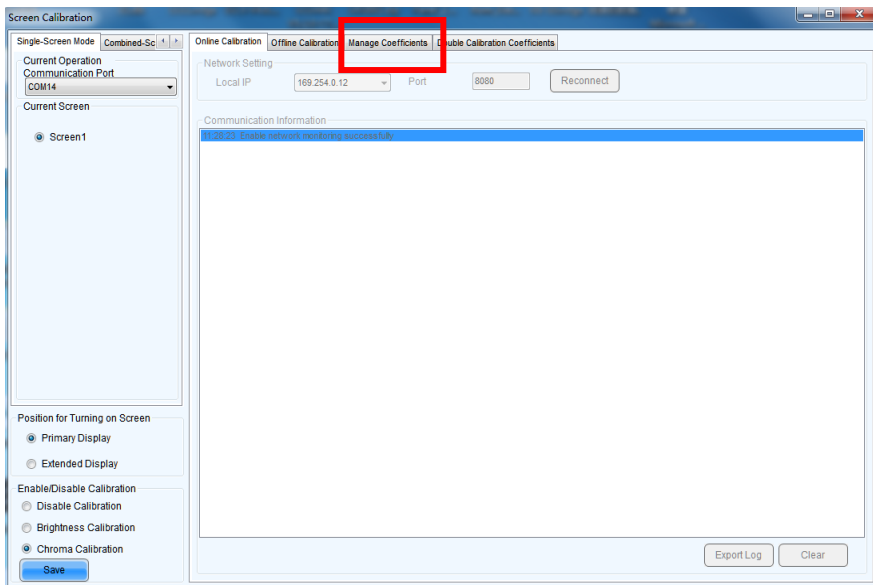


Figure A-8

- i) Click “Chroma Calibration” →”Save”,then click “Module Flash”.

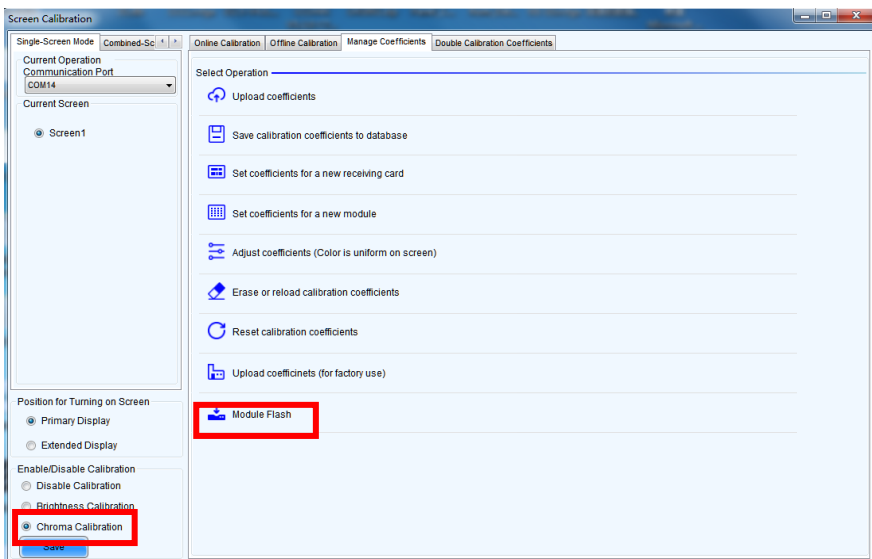


Figure A-9

j) There are 2 operation methods to manage module memory, “Send By Address” or “Send By Topology”. You should select one to send receiver card parameters. For example, Send by Topology. Select the “Send by Topology...” then select the receiver card you want to read calibration data ,click “View Module Calibration C...”.

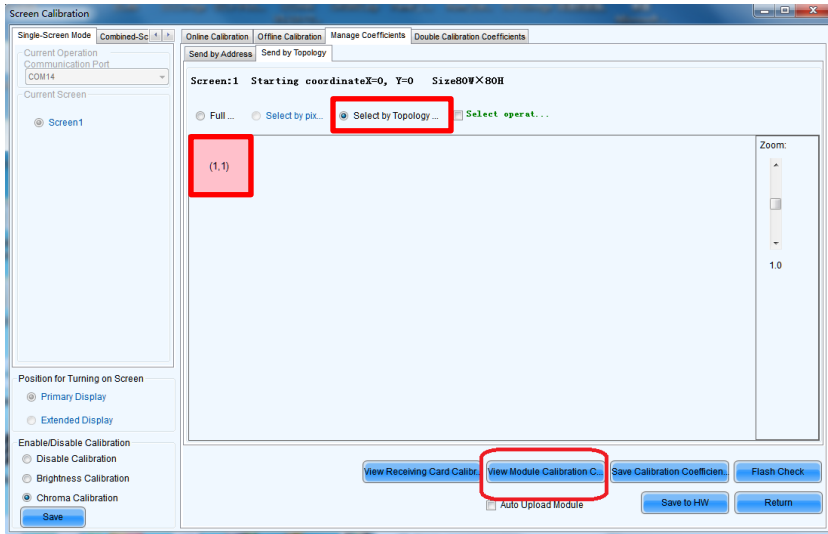


Figure A-10

k) Then “Module Calibration Coefficients Viewed Successfully”. Click “OK”.

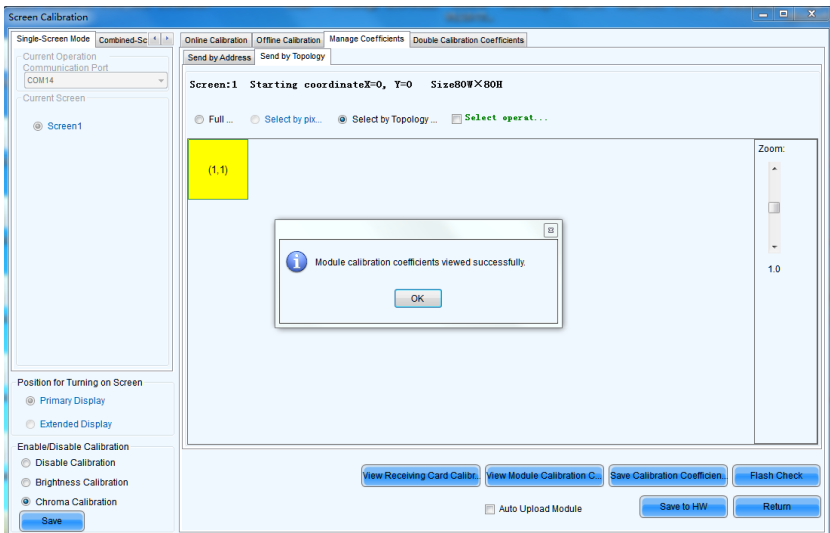


Figure A-11

l) Select the receiver card you want to save calibration data, click “Save Calibration Coefficient..”.

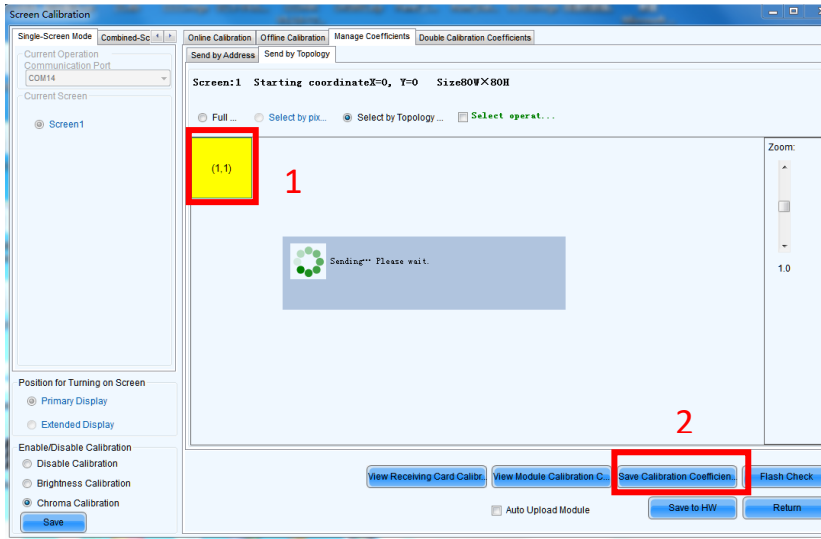


Figure A-12

m) At last, the dialog box pops up as Figure A-13, “Save Calibration Coefficients to receiving card successfully”, click “OK”.

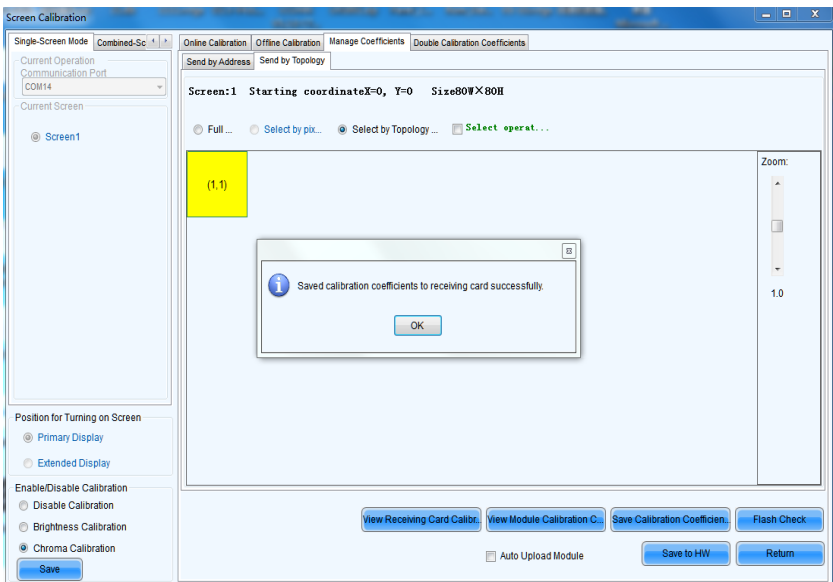


Figure A-13

LDM Basis

PHENOMENON	POSSIBLE CAUSE	SOLUTION
<i>LDM does not function correctly (e.g. Interference, noise, flashing color problem)</i>	<i>Data Cables to LDM loose, not plugged in, or damaged</i>	<i>Check cables and make sure the connection</i>
	<i>Power Cable to LDM loose, not plugged in, or damaged</i>	<i>Check cables or replace LDM and make sure the connection</i>
	<i>LDM PCBA damaged</i>	<i>Replace LDM (see Appendix A) and return complete assembly for repair or replacement.</i>
	<i>LCLH002 Core Board malfunction or damaged</i>	<i>Update the LCLH002 software Redo dot pixel setting</i>
<i>LDM Color Problem</i>	<i>LDM color not compensated, driver IC or EPROM on LDM damaged</i>	<i>Replace a new LDM (see Appendix A)</i>
	<i>LCLH002 Core Board malfunction or damaged</i>	<i>Update the LCLH002 software Replace a new LDM</i>

Panel Basis

PHENOMENON	POSSIBLE CAUSE	SOLUTION
<i>No picture</i>	<i>Power not turned on for some of the equipment or the panel itself</i>	<i>Check all AC power connections</i>
	<i>Data cables loose / not plugged in or incorrectly plugged in</i>	<i>Check all the data cables</i>
	<i>Input/output settings not correct on LCLH002</i>	<i>Check all settings</i>
	<i>LCLH002 Core Board failure</i>	<i>Press LCLH002 Receiver Board reset button Redo dot pixel setting Replace a new LDM (see Appendix A)</i>
	<i>Equipment failure</i>	<i>Check connections of the equipment Use the equipment self-test function to check it and replace the failure equipment if necessary</i>

	<i>Data source failure</i>	<i>Check the source</i>
	<i>A faulty power supply unit</i>	<i>Reset the panel Check the TTL (logic) power supply unit that supplies the LDMS. Replace the power supply, if necessary</i>
<i>Picture problem</i>	<i>Gamma not set correctly</i>	<i>Check the LCLH002 Box Check the setting on LCLH002 Box Check the picture source</i>
	<i>Color Brightness not set correctly</i>	<i>Check the LDM Check the brightness setting on LCLH002 Box</i>
	<i>Picture has a shadow (duplicate image)</i>	<i>Check all the data cables Check the data cable connection Check the picture source</i>
	<i>Picture appear all white (lack of any color information)</i>	<i>Check the LDMS Redo LDM Download Check RJ45 data cable connection</i>
	<i>One color is out</i>	<i>- Reset the panel - Check the LED (RED / GREEN / BLUE) power supply unit that supplies the LDMS. Replace the power supply, if necessary.</i>
	<i>Picture is out of order</i>	<i>Redo dot pixel setting Check RJ45 data cable connection</i>

PRODUCT SPECIFICATIONS

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

Model Name		GSEH060-GR
Application Type		Outdoor
Pitch Name		P6.0
Physical Parameters	Pixel Configuration	3 in 1
	Pixel Pitch(mm)	6.0
	Module Resolution (WxH)	32x32
	Module Dimensions(WxH,mm)	192X192
	Weight per Module (kg)	0.57
	No. of Modules per Cabinet (WxH)	6x4
	Cabinet Resolution (WxH)	192X128
	Cabinet Dimensions (W x H x D, mm)	1152x768x217
	Cabinet Surface Area (m ²)	0.885
	Weight per Cabinet (kg/unit)	42
	Weight per Square Meter (kg/m ²)	47
	Physical Pixel Density (pixels/m ²)	27779
	Flatness of Cabinet (mm)	±1.0
Optical Specifications	Cabinet material	Aluminum
	Service access	Front and Rear
	Max Brightness (After Calibration, nit)	8500
	Color Temperature (K)	6500
	Visual Viewing Angle (Horizontal)	160 (+80/-80)
	Visual Viewing Angle (Vertical)	130(+60/-70)
	Brightness Uniformity	97%
	Color Uniformity	±0.05Cx / ±0.05 Cy
	Contrast Ratio	4000:1
Electrical Specifications	Processing Depth (bit)	16
	Power Consumption (W/Cabinet, Max.)	800
	Power Consumption (W/Cabinet, Avg.)	320
	Power Consumption (W/m ² , Max.)	904
	Heat Dissipation (BTU/h/Cabinet, Max.)	2730
	Heat Dissipation (BTU/h/Cabinet, Avg.)	1092
	Heat Dissipation (BTU/h/m ² , Max.)	3084
Power Supply (V)		100 to 240

	Frame Rate (Hz)	50 / 60
	Refresh Rate (Hz)	≥3840
Operation Specifications	LED Lifetime (Half brightness)	≥100000
	Operating /Storage Temperature (°C)	-30 to +50/-40 to +60
	Operating Humidity	90%RH
	IP rating Front	IP65
	IP rating Rear	IP54
Certification		CE,FCC,ETL
Environment		ROHS2.0,REACH
Controller		LCLH002,CVEA

LICENSES

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



The model and serial number of the product are located on the back and on one side of the product. Record them below in case you ever need service.

MODEL

SERIAL

NO.

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