

SHARP

Product Installation and Operation Manual

AIO LED Display

[Models for indoor use]

LD-A1381F

LD-A1651F

MODEL: LD-A1381F, LD-A1651F

Contents

- Important Information3
- Parts Names7
- Connecting Equipment 10
- Product Installation 12
 - Installation Location 12
 - Assemble and Mount the Unit..... 15
 - Step 1: Installing the Wall Mount..... 15
 - Step 2: Assemble the columns (165in model only)..... 19
 - Step 3: Hang the cabinet columns onto the wall mount 21
 - Step 4: Attach the Speaker/Power Bar, Control Box, and Wiring 27
 - Step 5: Install the pixel cards..... 31
 - Step 6: Install the left, right, upper edgings, and lower side frame covers 33
- Simple Troubleshooting 34
- LED modules Light Board Replacement 35

Important Information

Safety Precautions and Maintenance

FOR OPTIMUM PERFORMANCE, PLEASE NOTE
THE FOLLOWING WHEN SETTING UP AND
USING THE LED DISPLAY SYSTEM:

About the Symbols

To ensure safe and proper use of the product, this manual uses a number of symbols to prevent injury to you and others as well as damage to property. The symbols and their meanings are described below. Be sure to understand them thoroughly before reading this manual.

	WARNING	Failing to heed this symbol and handling the product incorrectly could result in accidents leading to major injury or death.
	CAUTION	Failing to heed this symbol and handling the product incorrectly could result in personal injury or damage to surrounding property.

Examples of symbols

	⚠ Indicates a warning or caution. This symbol indicates you should be careful of electric shocks.
	⊘ Indicates a prohibited action. This symbol indicates something that must be prohibited.
	● Indicates a mandatory action. This symbol indicates that the power cord should be unplugged from the power outlet.

Be sure to read the following before using the product to use it correctly and safely.



WARNING



Do not apply vibrations or shocks to the product.



Do not install the product to unstable locations or locations subject to vibrations.



Always ask a technician to perform the installation.



Do not connect the cables with wet hands. Otherwise, it may cause an injury or an electrical shock.



Do not repair or modify the product yourself. Otherwise, it may cause an injury, a fire or an electrical shock.



In case of thunder, do not touch the power cord. Otherwise, it may cause an electrical shock.



Connect the product to the correct voltage. If the product is connected to a voltage other than the specified voltage, it may lead to a fire or an electrical shock.



In case of a malfunction (nothing is displayed on the screen, etc.) or if smoke, abnormal heat, or a strange sound or odor is generated, turn the power off and immediately ask a technician or your retailer for repair.



Make sure there are enough people available to ensure safety (at least two people) when installing or moving the product. Otherwise, it may lead to an injury.



Be sure to ground the product. If the product is not grounded, there is a risk of electrical shock in case a malfunction occurs.



In case foreign matter has entered into the product, immediately disconnect the power supply and stop using the product.



After the installation, if a problem such as loose screws occurs, immediately ask a technician or your retailer for repair.



Do not put objects into the product. Otherwise, it may cause a fire or an electrical shock.



In case the product is in contact with water or another liquid, immediately disconnect the power supply and stop using the product. If you continue using the product in that state, it may lead to a malfunction, a fire, or an electrical shock.



When using the power connector (WAGO), do not use it outdoors or in a humid environment. Otherwise, it may cause a fire or an electrical shock.



Install the product so that the vents are not obstructed.



CAUTION



When connecting the power cord to the product's AC IN terminal, make sure the connector is fully and firmly inserted.



Do not damage the power cord. Do not put heavy objects on it, place it near heaters, pull it with excessive strength, or apply a strong force on it while it is bent.
A damaged power cord may cause a fire or an electrical shock.



Do not install the product in narrow places where heat tends to build up.



Do not use the product in an environment with low heat dissipation. Otherwise, it may cause a malfunction.



Do not use the product in a vehicle or any other means of transportation.



Do not place the product under direct sunlight or near heaters.



This product is designed to be used indoors. Do not use it outdoors. Otherwise, it may cause a malfunction.



The RJ-45 port of the product is for use with the product only. Do not connect it to a network. Connecting this port to a network that may receive over-voltage current may cause damage to the product or an electrical shock.



Do not use or store the product in the following places.

- Near heaters
- Places with lots of humidity or dust, or places subject to oily smoke
- Places where water or oil may splash
- Places with lots of corrosive gases, such as near hot springs
- Places where the product may freeze
- Do not place the product on its side, face down, or upside down.
- Places with lots of vibrations



If you will not be using the product for a long time, disconnect it from the power distributor for safety purposes.



Install the product in accordance with the local laws and regulations.



Disconnect the power supply when performing the maintenance.



Use ESD gloves when handling Pixel cards to prevent static electricity from the human body and contamination due to finger oils, perspiration salts, flaking skin, and/or other forms of human excretory secretions. The LED modules and their electrical components are sensitive to biological agents and exposure to such risks, degradation of materials, and performance.

Eliminate any static electricity from your body before touching the Pixel cards by touching an aluminum sash, a door knob, or some other metal object.

This product can only be serviced in the country where it was purchased.

Recommended Use & Maintenance

About the LED lamps



The surface of the pixel card is vulnerable to shocks, so do not press or hit the surface.



LED lamps are sensitive to static electricity and surge voltage, which may damage their components and decrease their reliability.

Take measures against static electricity during the installation. Do not touch the LED display areas.



When you install the product or when you use it for the first time after leaving it unused for a long time, follow the instructions below.

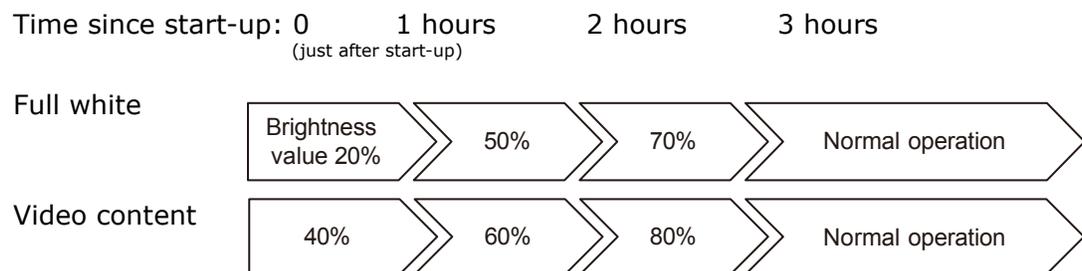
The LED lamps may absorb and hold moisture during the LED module installation or if not used for a long time. Therefore, in such cases, the brightness must be increased gradually during a break-in period before setting the normal brightness.

If the LED lamps are lit with 100% brightness while moisture is retained, the temperature will rise very quickly and the water inside the lamps will evaporate and expand. This will cause the encapsulating resin to expand, which may lead to separation of the boundary surface inside the LED lamps. This separation can cause the LED lamps not to light up properly.

Lamp break-in

Configure the brightness settings as shown below with a video displayed on the LED module.

After a break-in period of approximately 3 hours, the LED module can be used under normal conditions.



About the Pixel card



The surface of the pixel card is easily scratched, so handle it with care so as not to push or rub it with a hard object. Be careful not to stain the surface of the pixel card with your fingers. If the surface of the pixel card becomes dirty, wipe it gently with a dry cloth. Also, use a clean cloth and avoid using the same cloth repeatedly.

Parts Names

Product Views



Figure 1 - Front view

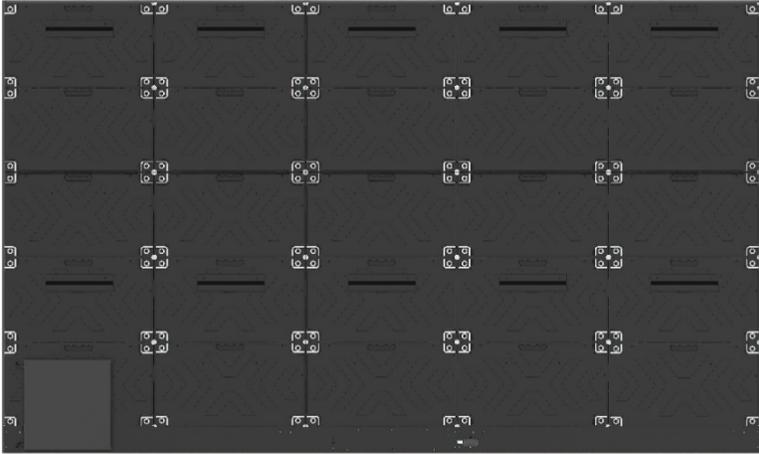


Figure 2 - Back view*

*The back of the product is illustrated for the 138-inch product as an example.

Button Control and Terminal Panels



Figure 3



Figure 4



Figure 5

No	Description	No	Description
1	Power Button/Switch	13	USB Port
2	Menu/Exit Button	14	HDMI-3 Input Port
3	Down Key	15	HDMI-2 Input Port
4	Up Key	16	HDMI-1 Input Port
5	Right Key	17	USB Port
6	Left Key	18	USB Port
7	Input/Settings Button	19	Remote Input Port
8	Infrared Receiver Port	20	Audio Output Port (3.5mm)
9	Status Indicator	21	RS-232C Input Port
10	Ambient Light Sensor	22	LAN Port (RJ45)
11	Debugging Network Port	23	Digital Audio Output (Optical)
12	USB Type-C Port	24	Built-in Speakers

Remote Control

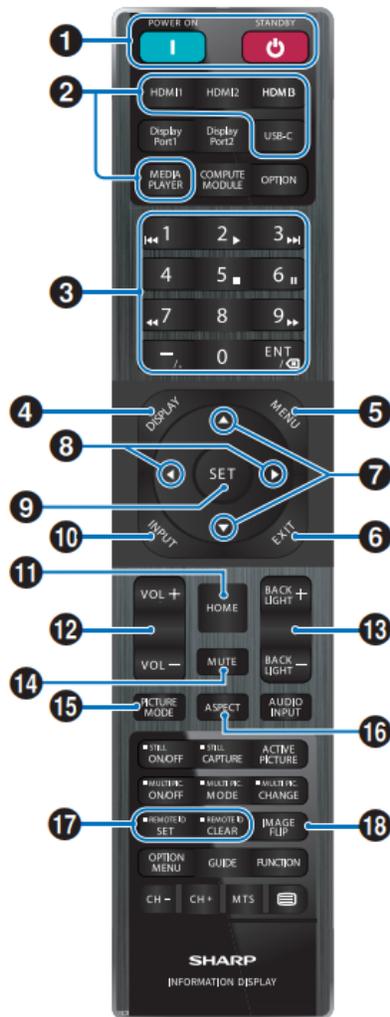


Figure 6

No	Description
1	Power/Standby Button
2	Direct Input Button
3	Keypad
4	Display Button
5	Menu Button
6	Exit/Terminal Button
7	Up/Down Button
8	Left/Right Button
9	Settings Button
10	Input Button
11	Home Button
12	Volume +/- Button
13	Backlight +/- Button
14	Mute Key
15	Picture Mode Button
16	Zoom Key
17	Remote ID Button
18	Image Rotation Key

Connecting Equipment

The number of ports and the type of device will depend on the product received. The descriptions here are for illustration purposes only.

Connect to the HDMI input

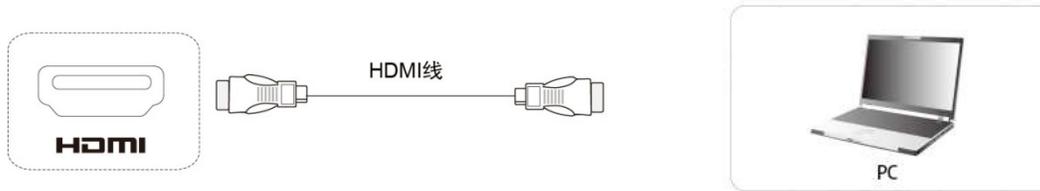


Figure 7

How to connect:

1. Use an HDMI cable to connect to your computer or other device with an HDMI output.
2. Press the channel switch key (on the machine or remote control) to switch to the HDMI display channel.

Connect to the USB Type-C input

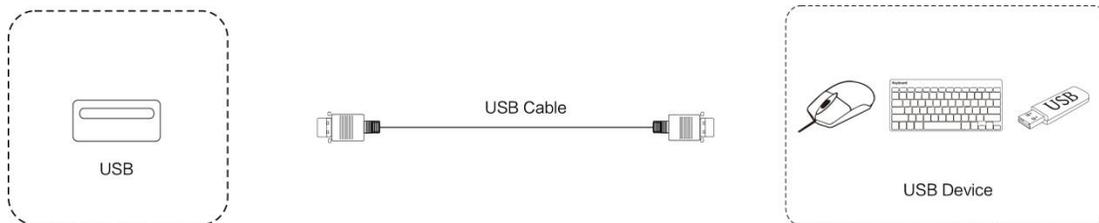


Figure 8

How to connect:

1. Connect a USB drive, mouse, or keyboard to the USB Type-C interface.
 - A mouse and keyboard can be used immediately after being connected to the USB/TYPE-C interface.
 - To view the contents of a USB drive, open Explorer on the system home screen to read the files.

Output audio signals

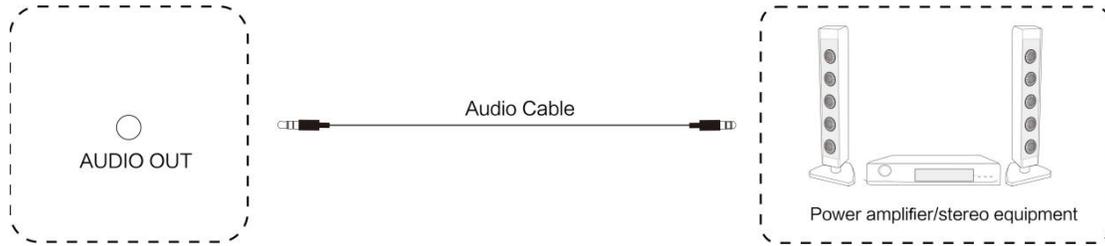


Figure 9

How to connect:

1. Connect one end of the audio cable to the 3.5mm audio output port and the other end to the amplifier, stereo, headphone, or other audio device.
2. You can use the remote control to control the volume of the audio sound output.

Product Installation

Installation Location

Before the installation, review the following safety precautions to ensure proper and safe installation.

CAUTION

- Contact a professional service technician to perform the installation.
- Make sure the completed product is moved and installed by enough people to ensure safety.
- Ensure that the beams or other structures to which the product is installed are strong enough to support its weight and that the product is securely fixed.
- When installing the product in an environment with excessive dust or dirt, prevent such material from accumulating and adhering to the connectors on the hub board and pixel card by installing proper air filtration for the room.
 - Dust or dirt adhesion to the connectors may cause poor contact, leading to abnormalities in the video display.

Wall Mounting

For wall mounting, the wall should be a load-bearing structure.

Installation on special wall structures such as glass, marble, porcelain, or hollow walls may result in additional cost, as these structures cannot bear the weight of the product and may need special installation procedures.

The installation is limited to punching the load-bearing wall, hanging, or mounting on a vertical bracket; any special installation, such as wall reinforcing or steel structure installation, will be subject to additional cost calculated as incurred.

We assume no responsibility for any potentially hazardous installation designated by you, despite the advice of our installer; nor shall we be held liable for any damage to any other item caused by your use of any non-Sharp standard/proprietary hanging bracket.

Ventilation Requirements

When mounting in an enclosed or recessed area, leave room around the completed LED screen setup and the enclosure to allow heat to disperse, as shown below.

Note:

- Allow adequate ventilation or provide air conditioning around the product, so that heat can properly dissipate away from the unit and the mounting equipment.

- Make sure to use the product at a temperature lower than the normal operating temperature.
- The top of the LED module should always be installed so that the temperature is below 40°C.
- Pay particular attention to the installation environment (heat from the external environment, direct sunlight, heat generated by the number of displays) to facilitate cooling of the LED modules. If cooling is insufficient, take measures, such as increasing the distance from the walls or installing a forced-air cooling system.
- Ask a technician or your retailer for more details.

Installation Examples

Wall mounting installation example

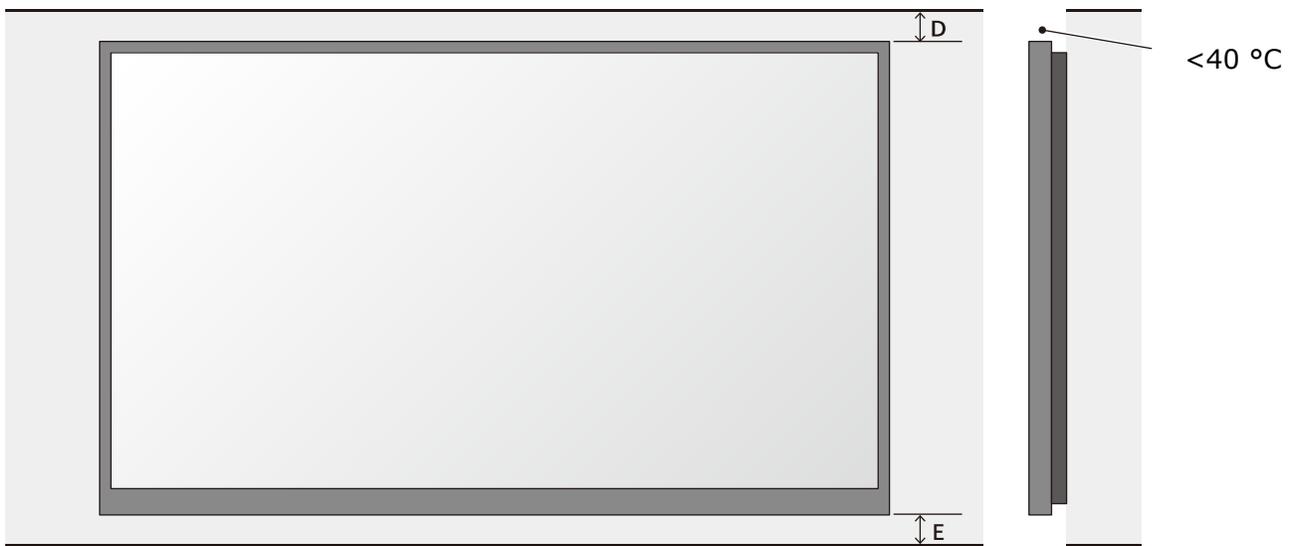


Figure 10

D	E
Recommended distance to the ceiling	Recommended distance to the floor
500 mm*	500 mm*
*: Depending on the temperature condition.	

If the distances are less than these values, the cooling might not be sufficient. Take additional measures, such as increasing the distance from the wall or installing a forced-air cooling system near the display installation.

In-wall mounting installation example

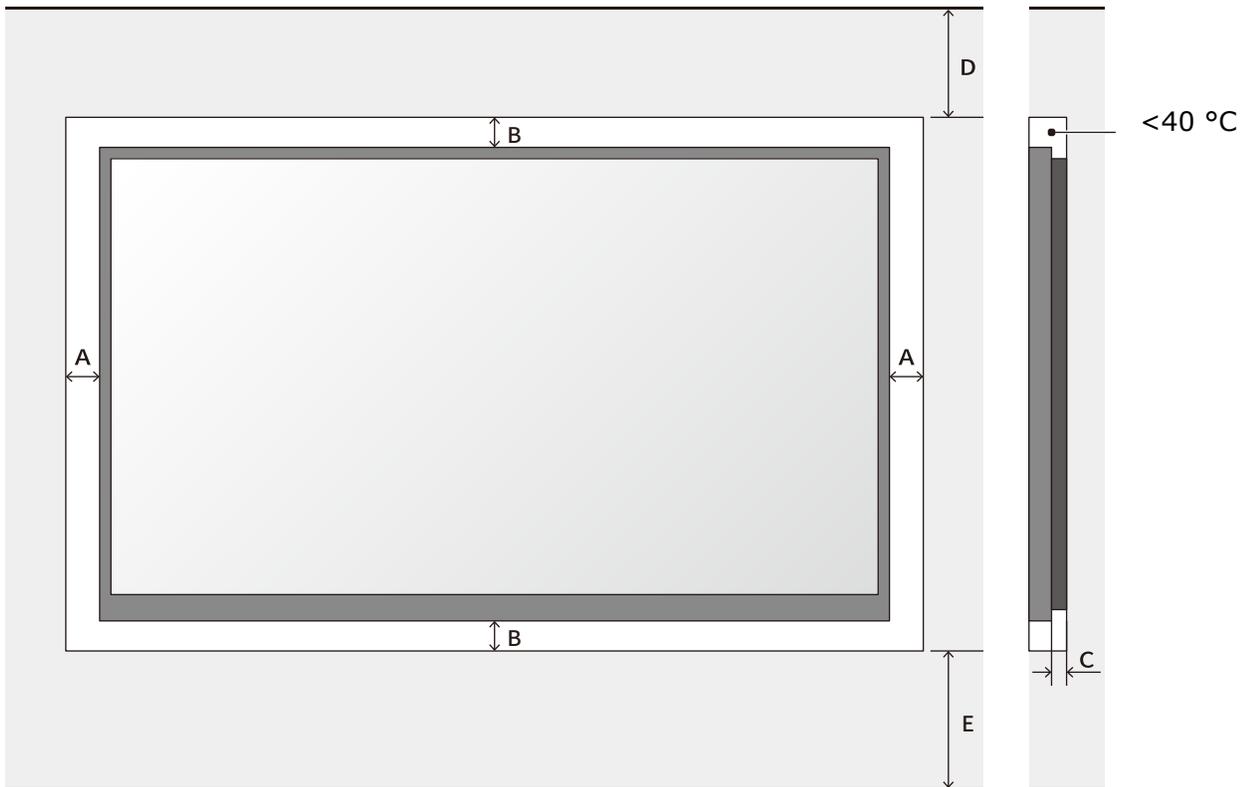


Figure 11

A	B	C
min. distance to sides	min. distance to top and bottom	min. distance between wall and system
60 mm	60 mm	20 mm

D	E
Recommended distance to the ceiling	Recommended distance to the floor
500 mm*	500 mm*
*: Depending on the temperature condition.	

If the distances are less than these values, the cooling might not be sufficient. Take additional measures, such as increasing the distance from the wall or installing a forced-air cooling system near the display installation.

Assemble and Mount the Unit

Step 1: Installing the Wall Mount

1. Attach a $\frac{3}{4}$ " furniture-grade plywood to the studs of a load-bearing wall.
Note: a plywood board is not included; the customer must procure this. The following image is for reference purposes only.



Figure 12 - Example wall with a plywood board for wall mount

2. Select the corresponding accessories for the wall mounting strip assembly, as shown in the figure below:

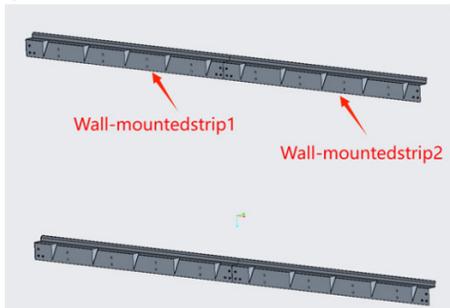


Figure 13 - Example 138" wall bar mount

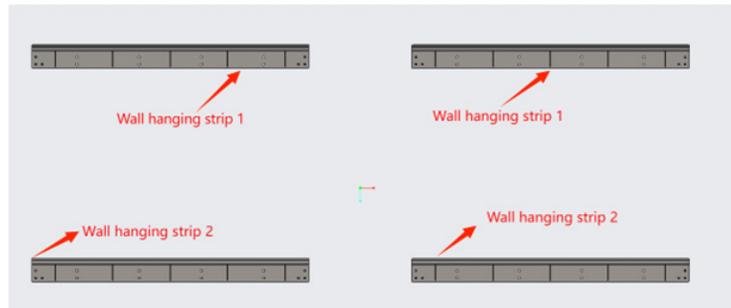


Figure 14 - Example 165" wall bar mount

3. Determine the punching positions for the upper and lower hanging bars according to the site environment and the screen height above the ground. Use a level gauge to ensure levelness.

- 138" five column model (LD-A1381F) only – use the connection plate to join the mounting bars in the middle.

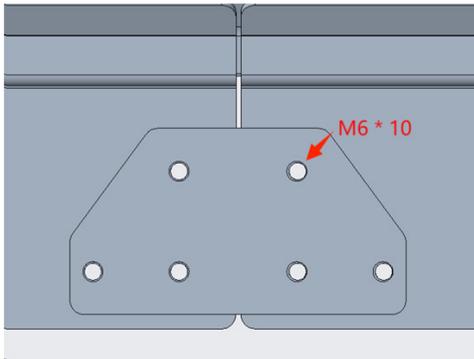


Figure 15 – 138" model only: connecting plate joins the Z-mount bars in the middle

- Mark the corresponding hole positions and punch the marked points with a tool. Each hole should be sized 10 mm in diameter.

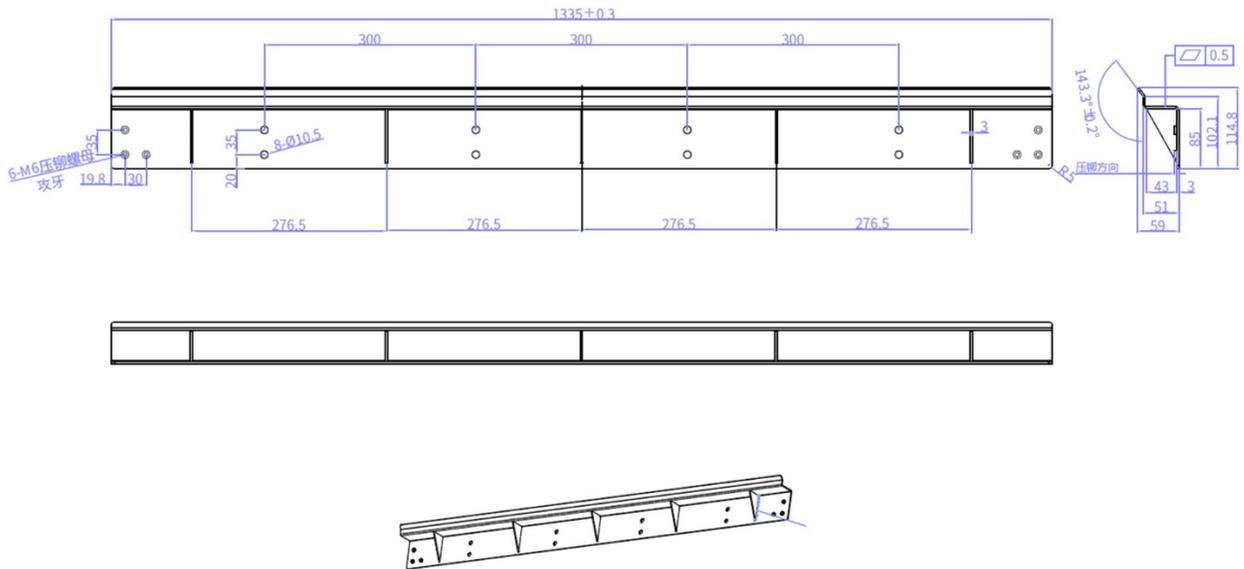


Figure 16 - Measure, level, align, and mark the positions for the corresponding punch holes

7. Check that the hanging bars are correctly installed. You must confirm that 1) it is level, and 2) the upper and lower hanging bars are properly spaced apart.

It can be checked and adjusted as follows:

- ① Use a level gauge to check whether the hanging bars are level and adjust them if needed. (Loosen the expansion bolts, push the bars to level by hand, and then tighten the bolts again.)
- ② Use a tape measure to check whether the two rows of hanging bars are correctly spaced apart and adjust them if needed. (Loosen the lag bolts, push the bars gently by hand to fine-tune the space, and tighten the bolts again.)



Figure 19 - Example final position of 138" wall bar mount



Figure 20 - Example final position of 165" wall bar mount

8. Continue with the following instructions to hang the unit on the wall mount and attach the pixel cards.

Step 2: Assemble the columns (165in model only)

All other models' columns come pre-assembled; please continue to the next main step (page 21).

1. The All-In-One display is delivered with the panels joined into lettered columns. Each corresponding lettered column must be attached before hanging onto the wall mount.

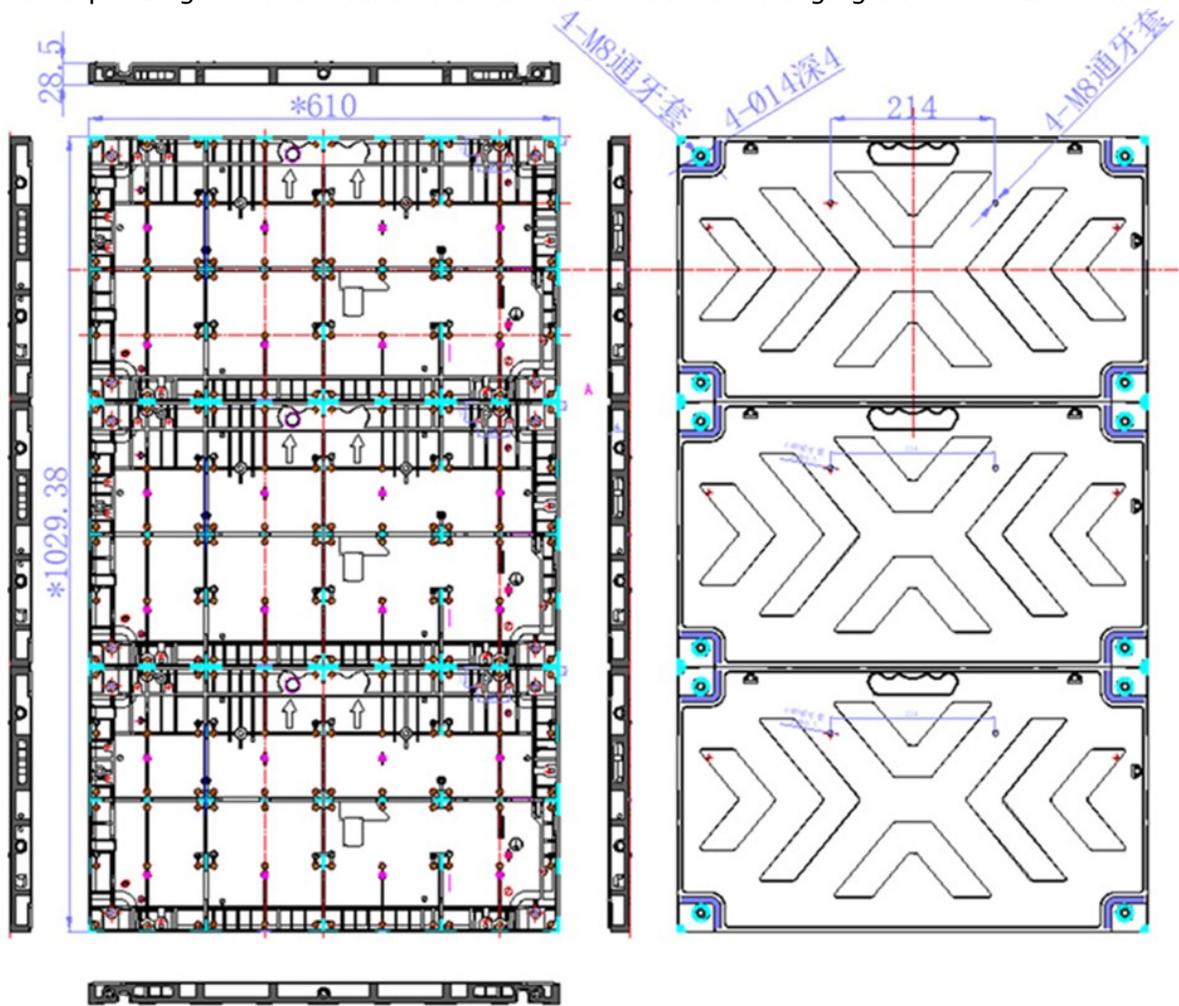


Figure 21

2. Connect the panels using the hook locks on the top and bottom and spring side locks on the sides.

Using the image below as a guide:

- Use the provided Allen Wrench tool to lock the box up and down for the connection; the figure shows the position in blue.
- The left and right spring side lock connects; the figure shows the position in red.

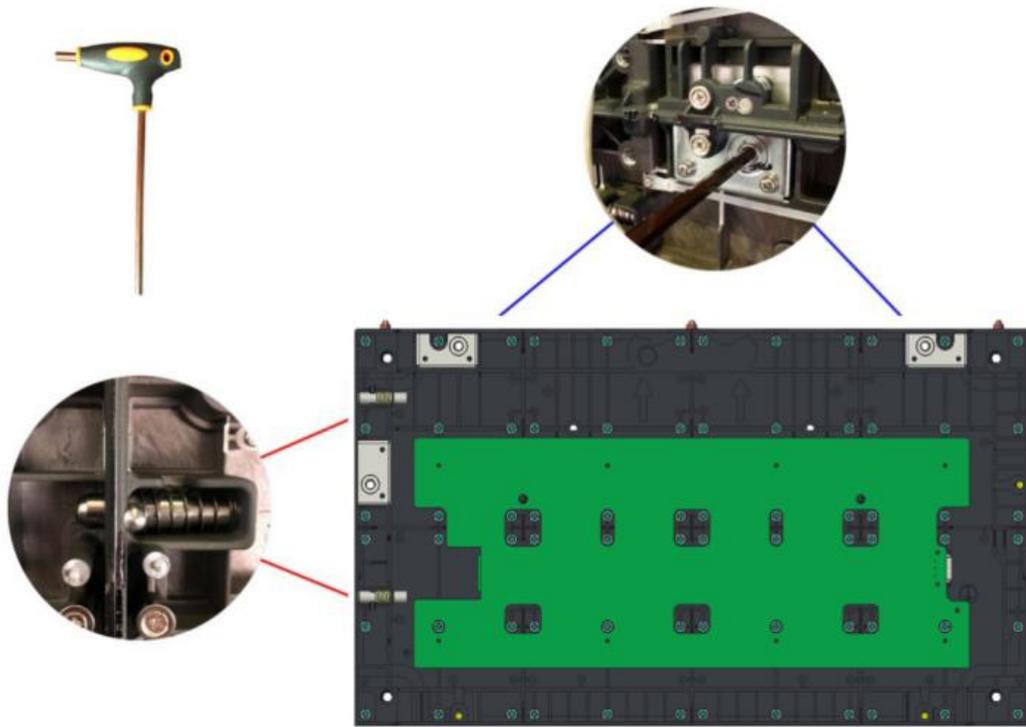


Figure 22

3. Each column consists of two (2) 1x3 panels that must be joined before hanging on the Z-mount bar.
The installer must manually add a plate with two screws on the back where the cabinets are joined to secure them together. It is the same cabinet hardware fastener with which the other cabinets are held together.

Step 3: Hang the cabinet columns onto the wall mount

- 1. Hang the pre-assembled columns in order, starting with "A"
- 2. Install the adjacent second column so that the hanging hooks are on the hanging bars and the adjacent side planes are closely attached together.

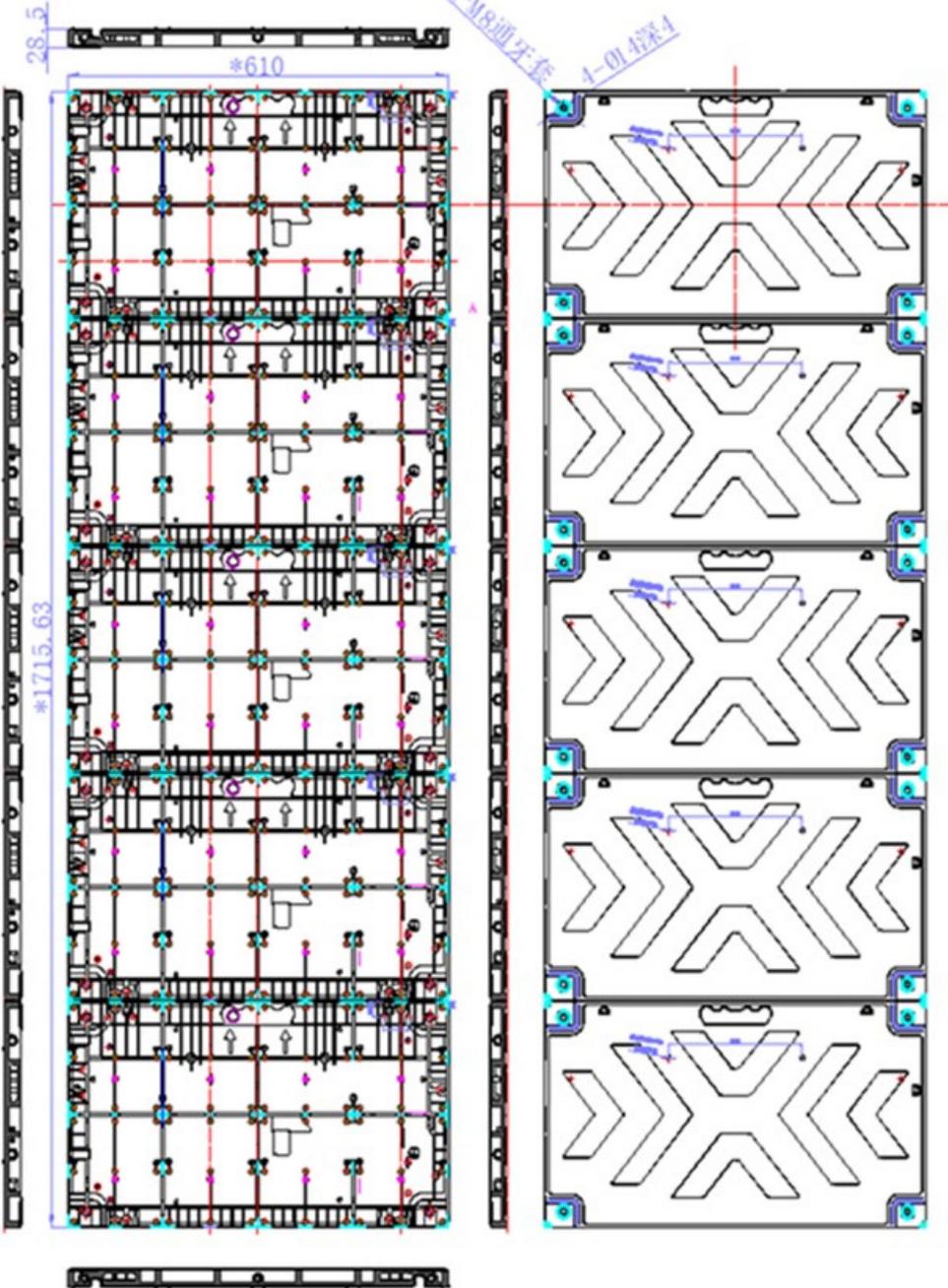


Figure 23

3. Pull out the side spring locating pin and insert the entire pin into the corresponding locating hole.
Then rotate the side hook lock with the corresponding hex wrench until the panels in the left and right columns are fully locked, as illustrated below:

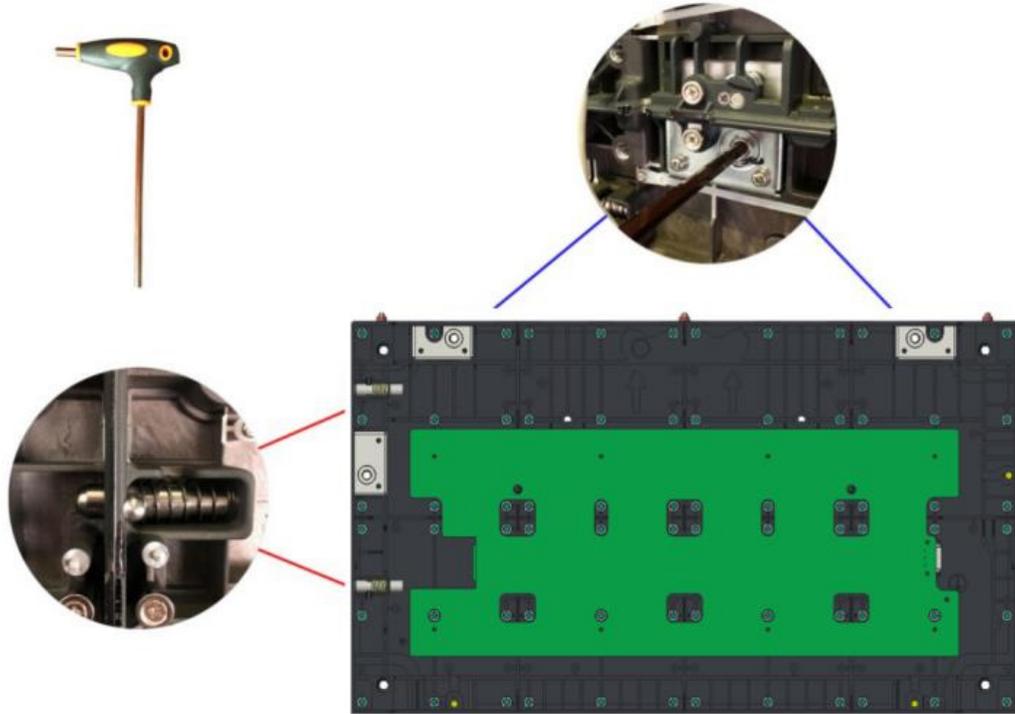


Figure 24

4. Install the other pre-assembled columns from 1 to 5 (1 to 6 on the 165" model).

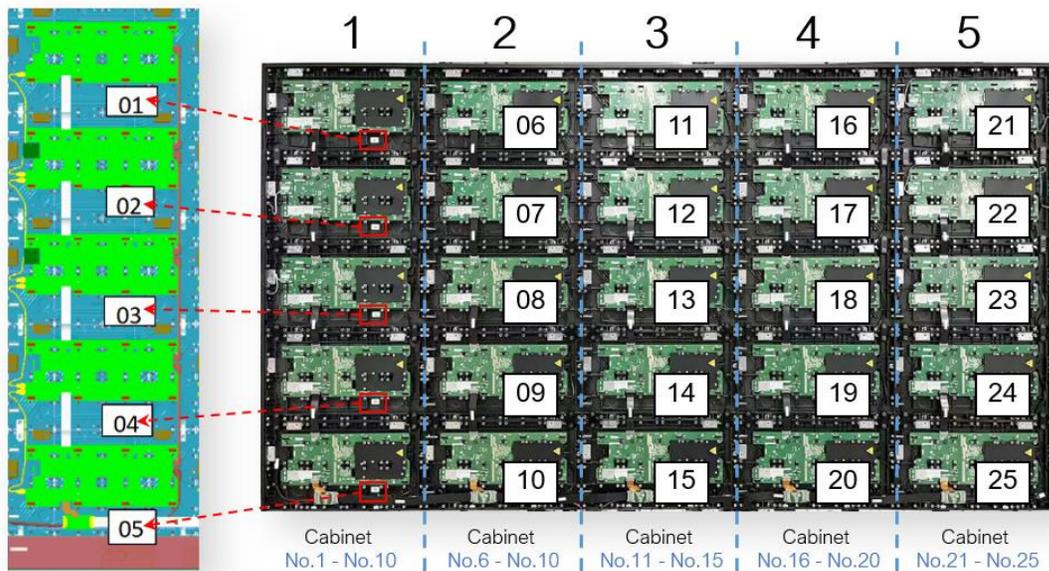


Figure 25

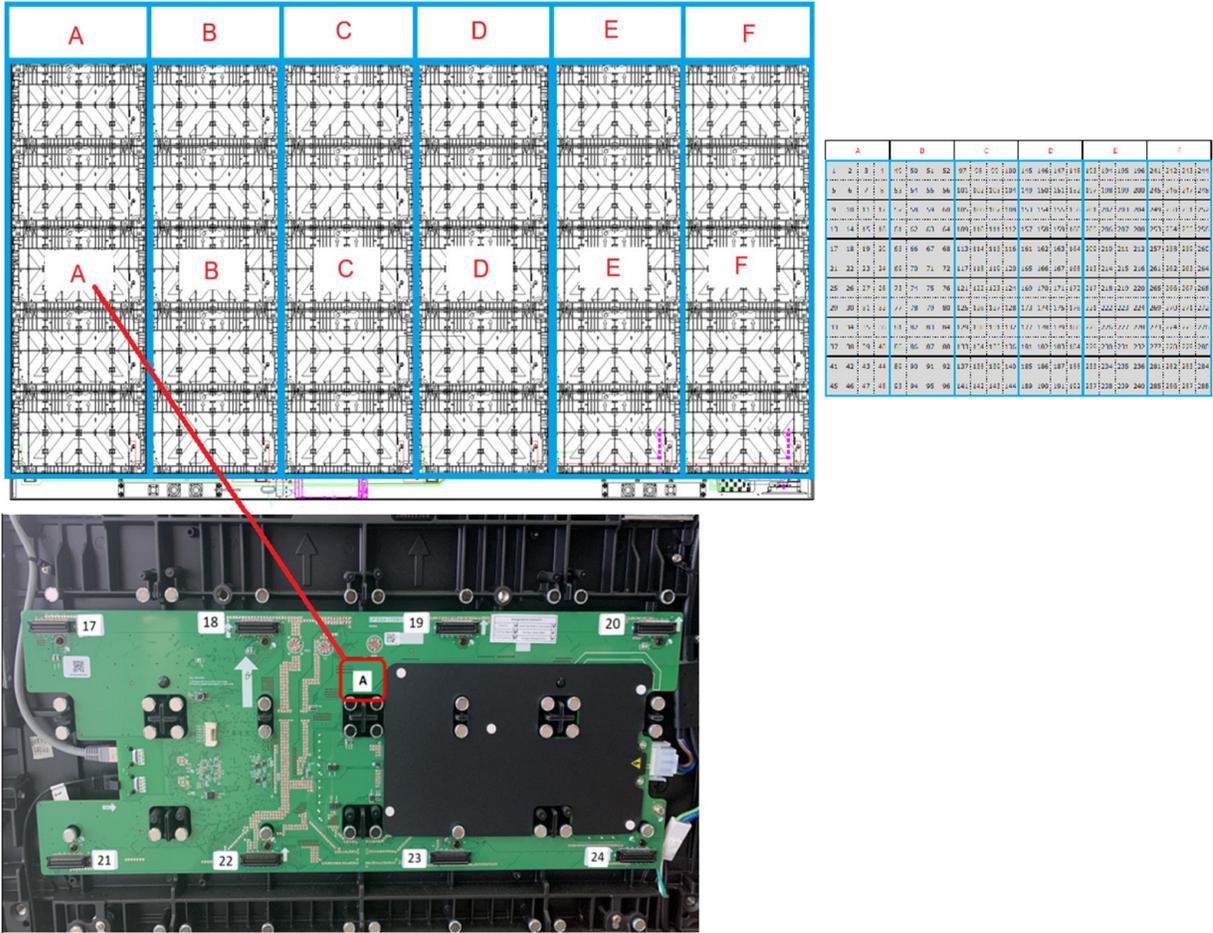


Figure 26

Note: Attach the control box plate frame to the final column (#5 on 138" and #6 on 165") before hanging the final column on the wall.



Figure 27 - Control box plate mounting



Figure 28

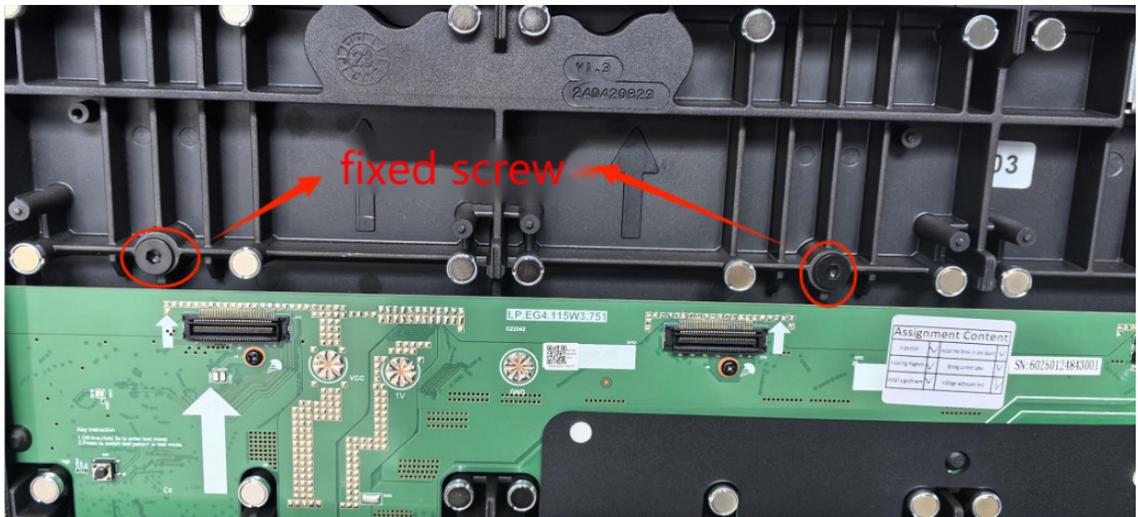


Figure 29

5. Add 3 M3*25 screws from the front to tighten against the mounting bar to secure the display.

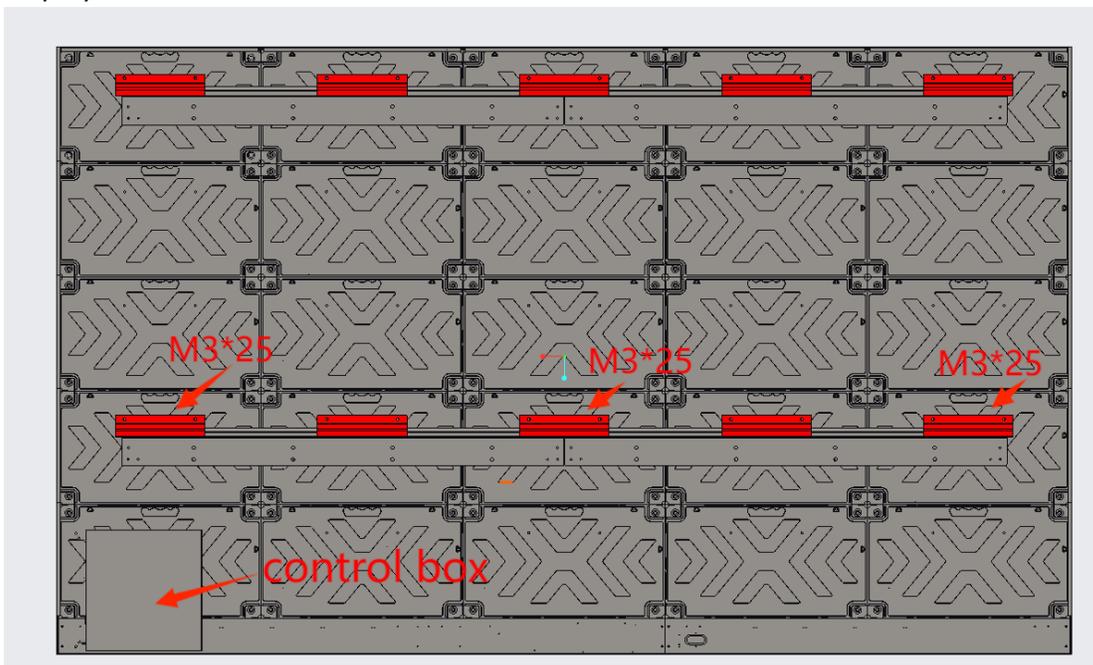


Figure 30 - Location shown on the 138" model (LD-A1381F)

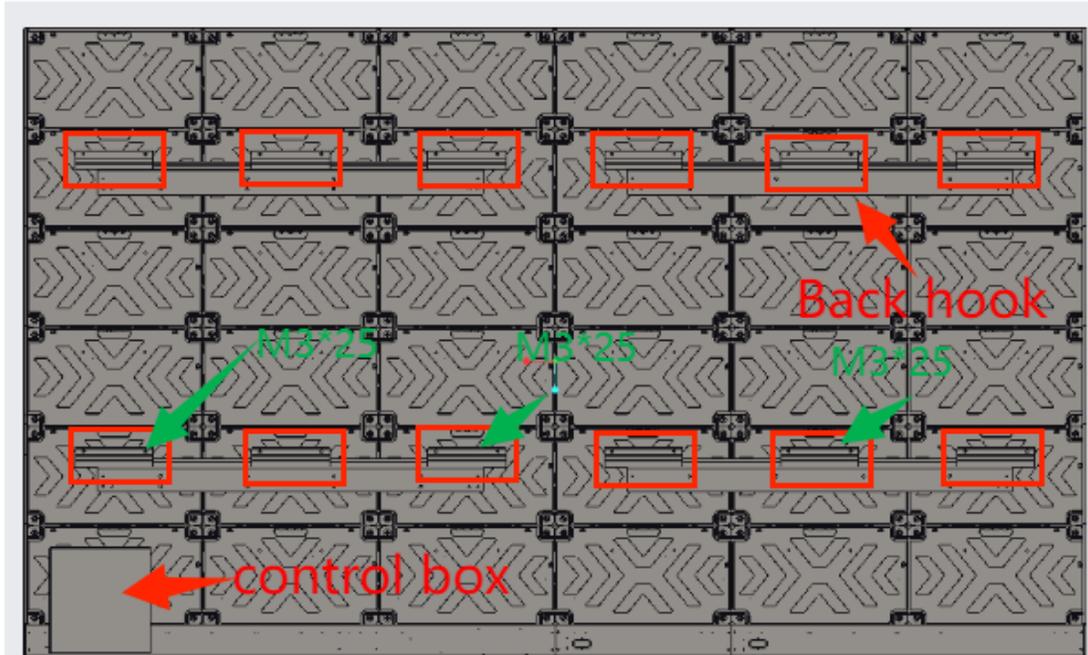


Figure 31 - Location shown on the 165" model (LD-A1651F)

Close-Up views of screw placements

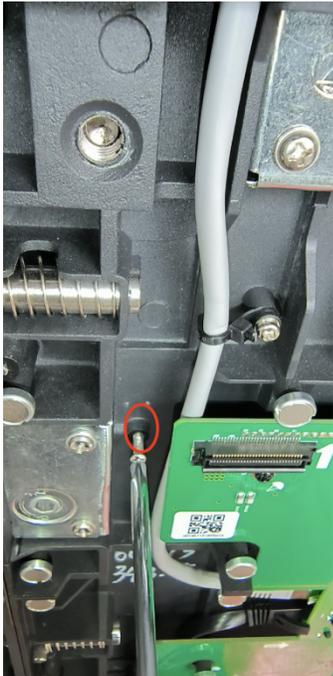


Figure 32 - Screw on the inside of the box



Figure 33 - Locking screw



Figure 34 - M screw box on the back of the back of the bar diagram

Step 4: Attach the Speaker/Power Bar, Control Box, and Wiring

Assemble and Attach the Speaker/Power Bar

The Speaker/power bar is two units. A connection plate connects these, and the speaker bar assembly attaches to the bottom of the columns.

Rotate the side hook lock with the corresponding hex wrench until the speaker bar is firmly in place:

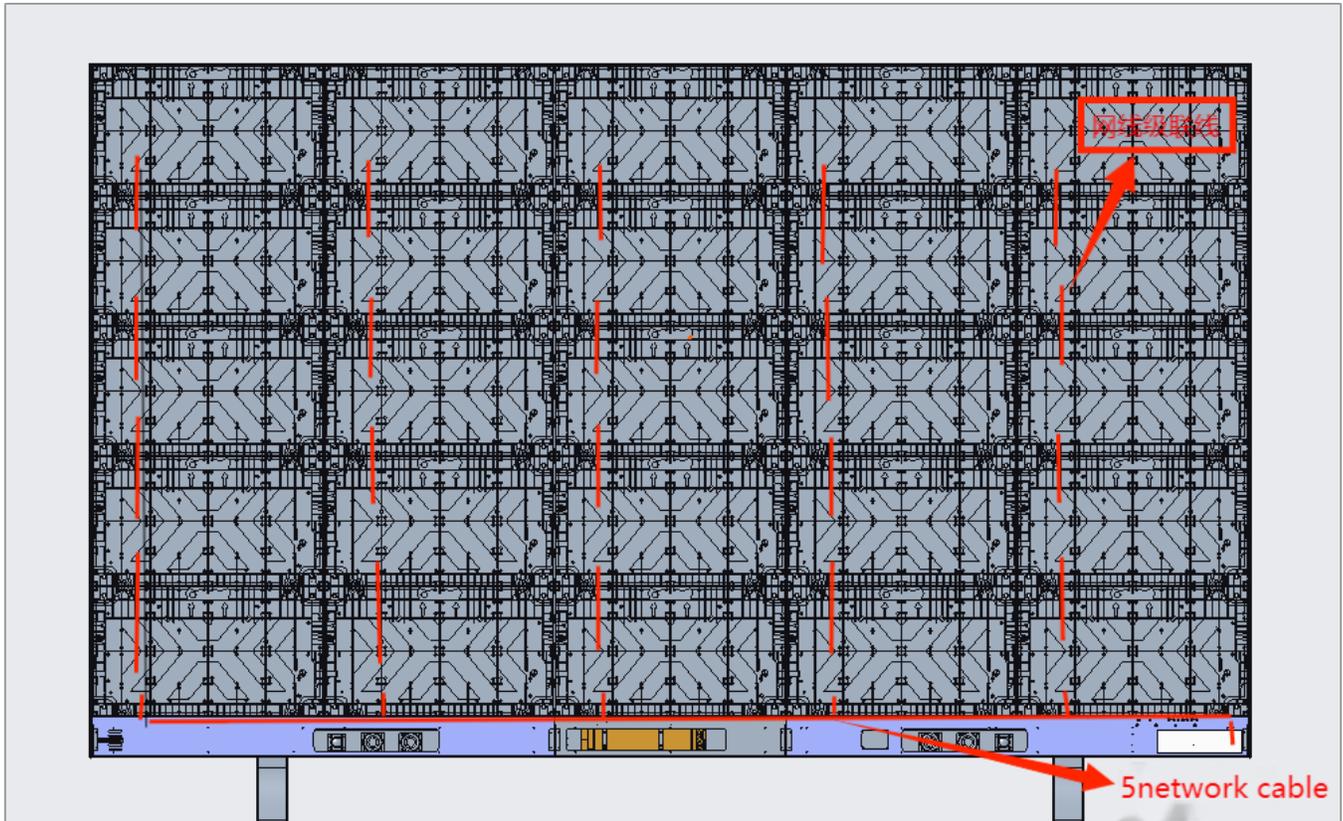


Figure 35

Install the Control Box

Slide the control box into the control box plate frame behind the last column. (The control box frame should have been attached to the final column before hanging it on the wall as described in the previous section. See page 22).



Figure 36 - Side diagram of the back plate



Figure 37 - Install the control box

The sending card board connection is shown below:

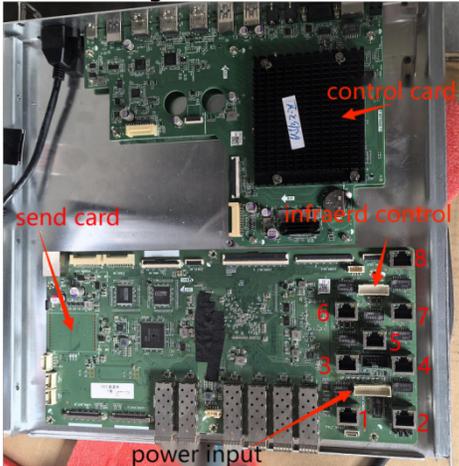


Figure 38 - The 1-5 network ports correspond to the 1-5 columns of boxes



Figure 39 - Send card and SoC board card connected installation physical diagram

Wiring

Each column is pre-wired with power and data connections, and each column needs to be connected to power and data at the bottom.

- Data cables are shown in red numbered **1** to **5** (**1** to **6** on 165" model) network cable, attach them to the control board based on the diagram shown in the speaker bar.
- Attach the power lines to each corresponding column at the bottom.
- Route the cables through the corresponding channels shown in the figure.

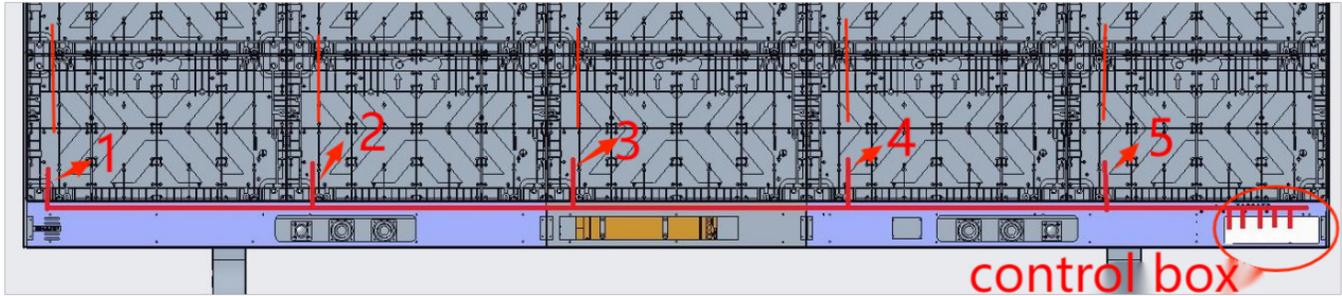


Figure 40

120/208V strong electric wiring: one way 3 * 2.5 square power line input to the power board, the power board outputs two ways to the large screen, one way with 2

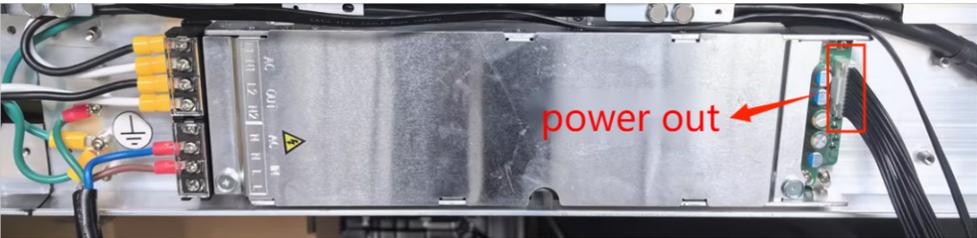
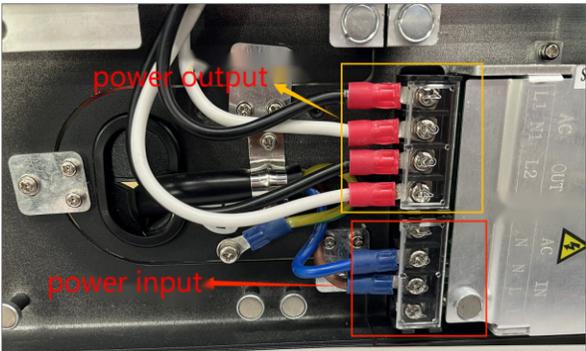


Figure 41

Step 5: Install the pixel cards

Install the pixel cards from left to right, from right to left, from bottom to top, or from top to bottom as appropriate for the installation environment on the site.

Repair any improper flatness during assembly.

1. The modules are hard-connected to the hub board and the connectors on the modules. Use the appropriate amount of strength and avoid forceful insertion during installation.
2. Numbered positions on hub boards and pixel cards
 - Each hub board is delivered with a number marked on the upper right (on the inside), representing the panel's installation position at the time of factory calibration.
 - Each module is also marked with a number (on the back).
 - The numbers refer to their position on the screen (1-200 for the 138" model and 1-288 for the 165" model).

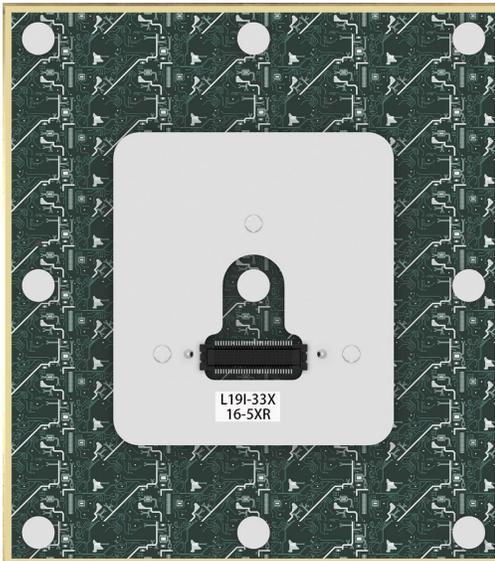


Figure 42

3. Refer to the schematic diagram and install the pixel cards according to their corresponding locations for best results. This ensures the pixel cards are in the exact location at the time of calibration, resulting in better image quality.

A				B				C				D				E			
1	2	3	4	41	42	43	44	81	82	83	84	121	122	123	124	161	162	163	164
5	6	7	8	45	46	47	48	85	86	87	88	125	126	127	128	165	166	167	168
9	10	11	12	49	50	51	52	89	90	91	92	129	130	131	132	169	170	171	172
13	14	15	16	53	54	55	56	93	94	95	96	133	134	135	136	173	174	175	176
17	18	19	20	57	58	59	60	97	98	99	100	137	138	139	140	177	178	179	180
21	22	23	24	61	62	63	64	101	102	103	104	141	142	143	144	181	182	183	184
25	26	27	28	65	66	67	68	105	106	107	108	145	146	147	148	185	186	187	188
29	30	31	32	69	70	71	72	109	110	111	112	149	150	151	152	189	190	191	192
33	34	35	36	73	74	75	76	113	114	115	116	153	154	155	156	193	194	195	196
37	38	39	40	77	78	79	80	117	118	119	120	157	158	159	160	197	198	199	200

Figure 43 – 138" model (LD-A1381F)

A				B				C				D				E				F			
1	2	3	4	49	50	51	52	97	98	99	100	145	146	147	148	193	194	195	196	241	242	243	244
5	6	7	8	53	54	55	56	101	102	103	104	149	150	151	152	197	198	199	200	245	246	247	248
9	10	11	12	57	58	59	60	105	106	107	108	153	154	155	156	201	202	203	204	249	250	251	252
13	14	15	16	61	62	63	64	109	110	111	112	157	158	159	160	205	206	207	208	253	254	255	256
17	18	19	20	65	66	67	68	113	114	115	116	161	162	163	164	209	210	211	212	257	258	259	260
21	22	23	24	69	70	71	72	117	118	119	120	165	166	167	168	213	214	215	216	261	262	263	264
25	26	27	28	73	74	75	76	121	122	123	124	169	170	171	172	217	218	219	220	265	266	267	268
29	30	31	32	77	78	79	80	125	126	127	128	173	174	175	176	221	222	223	224	269	270	271	272
33	34	35	36	81	82	83	84	129	130	131	132	177	178	179	180	225	226	227	228	273	274	275	276
37	38	39	40	85	86	87	88	133	134	135	136	181	182	183	184	229	230	231	232	277	278	279	280
41	42	43	44	89	90	91	92	137	138	139	140	185	186	187	188	233	234	235	236	281	282	283	284
45	46	47	48	93	94	95	96	141	142	143	144	189	190	191	192	237	238	239	240	285	286	287	288

Figure 44 – 165" model (LD-A1651F)

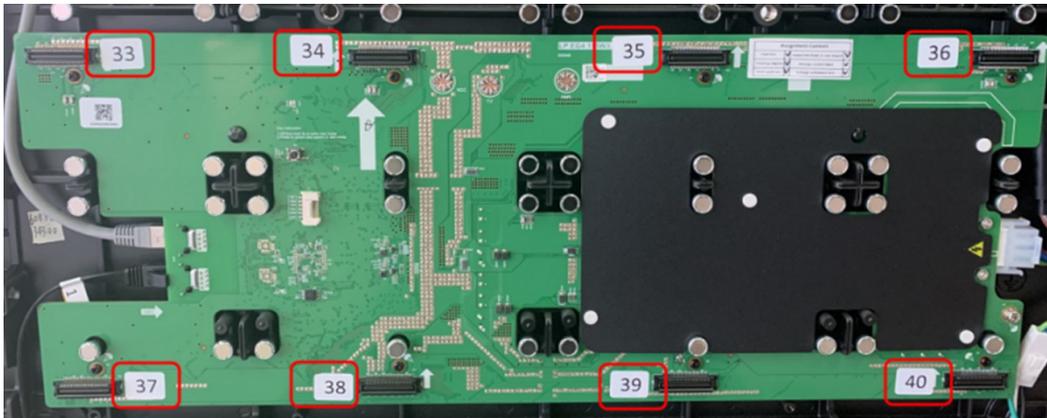


Figure 45

Step 6: Install the left, right, upper edgings, and lower side frame covers

1. The left and right edgings are clipped in the side spring locating pinhole with clips (as previously described, the spring locating pin on the left most of the screen should be removed and an edging should be installed), as illustrated below:

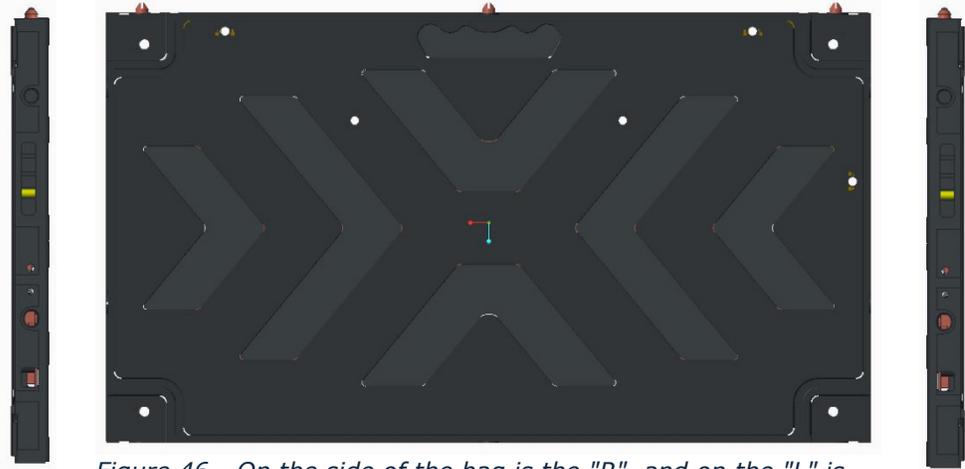


Figure 46 - On the side of the bag is the "R", and on the "L" is the left side (the left and right are based on the face)

2. Install the lower side frame covers from left to right according to their respective positions indicated on the installation diagram. Magnets secure the front covers to the frame. The installed covers are shown below:

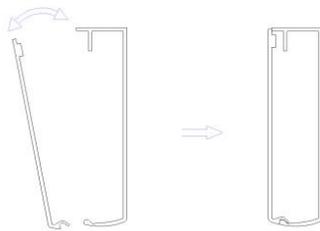


Figure 47 - Side view of the lower border

Simple Troubleshooting

Part of the screen doesn't light up after power on

Check that the network cable to the panel is securely connected.

Check that the power cable to the panels is securely connected.

The indicator doesn't work

Check whether the power supply is functional.

Check whether the switch of the machine is turned on.

No image is shown after connecting to a computer with an HDMI cable

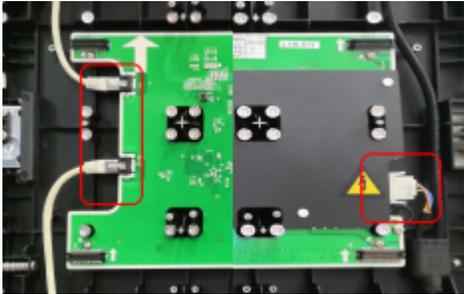
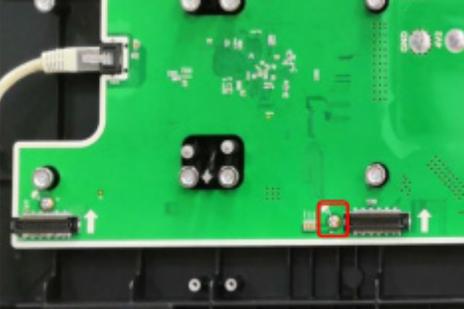
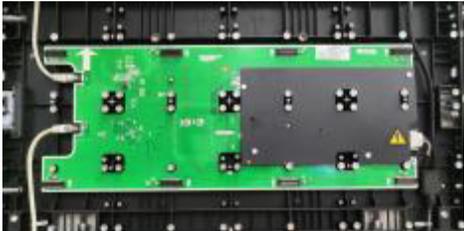
Check that the current selected signal input is the HDMI channel.

Check whether the HDMI cable between the machine and the external computer is disconnected or loose.

LED modules Light Board Replacement

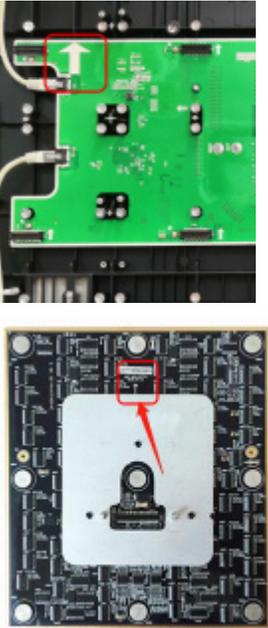
Please follow these steps if you need to replace any of the light board components.

(1) Three-in-one board replacement

Step	Graphic	Method
First Step		Find the location of the fault box and remove all the light panels
Second Step		Disconnect the power cord and network cable
Third Step		Remove the 8 screws from the 3-in-one plate
Fourth Step		Remove the faulty three-in-one board and replace the new three-in-one board

(2) Replace the lamp board

Step	Graphic	Method
First Step		Find the specific location of the faulty board and place the side slope of the front maintenance tool directly below the board
Second Step		Before rotating the maintenance tool upward, slowly transition from the curved surface to the end. After absorbing the lamp board, remove the lamp board in the parallel direction

Step	Graphic	Method
Third Step		Hold the lamp board with full palm and transfer the maintenance tool to the lamp board surface
Fourth Step		When installing the lamp board, follow the same direction of the arrow

SHARP

Trademark and Software License

©2025 Sharp Electronics Corporation. All rights reserved.

IPR Declaration: All hardware designs and software programs related to this product are protected by copyright laws. No part of this product or this operation manual may be reproduced without our prior authorization.

All texts and pictures contained herein are provided for information only. None of them shall be construed as any commitment in any form.

The appearance design of this product is subject to further improvement or modification without notice.

HDMI, HDMI High Definition Multimedia Interface, and the HDMI logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum.

Document version: 1.00