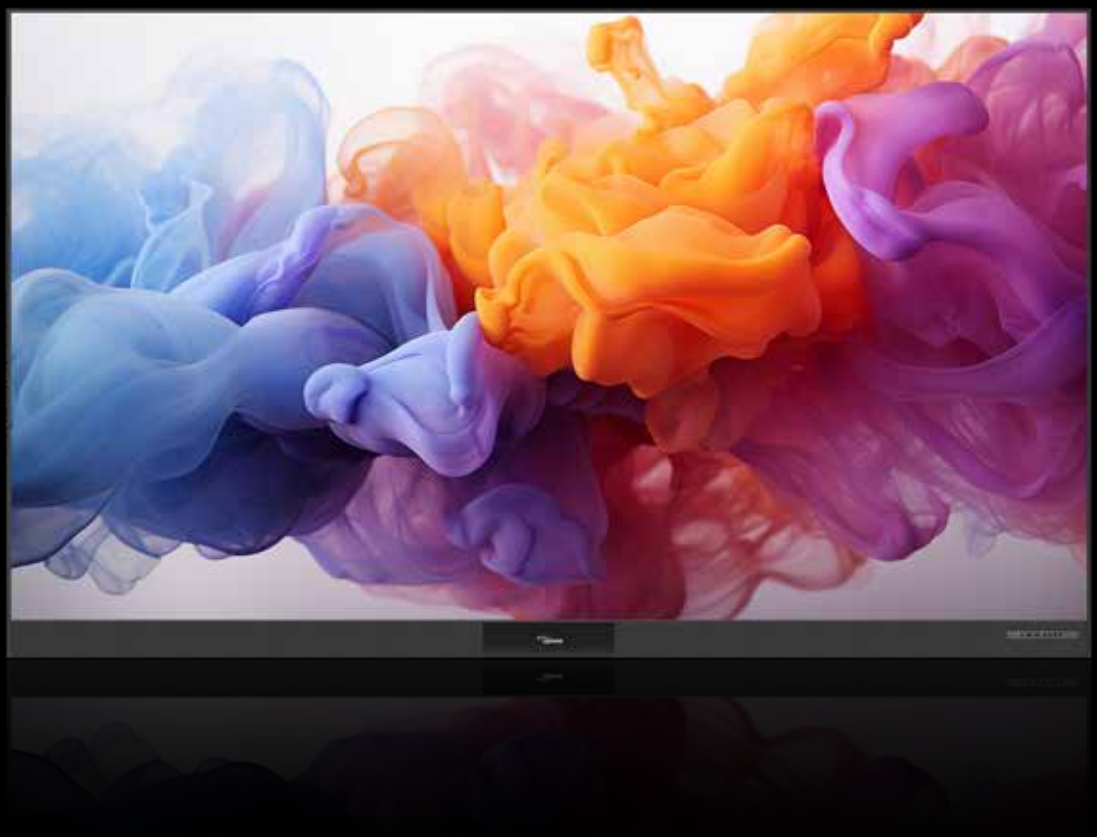


FHDC135 LED Display

Installation Guide

▪ Warning!

Failure to pay attention to the warnings herein can very likely result in the device being damaged and becoming unrecoverable.

1) Do not place the device upside down or throw it during transportation and storage.
2) Do not tilt or scratch the device during installation.
3) Do not expose the device to water.
4) Do not point the air outlet of the air conditioner close to the display when letting out the air.
5) Do not place or use the display in an environment with volatile, corrosive or combustible chemicals.
6) Do not use the device in an environment with humidity above 80% or outdoors.
7) Do not clean the device with water or chemical solutions.
8) Always use electrical accessories certified by the device manufacture,
9) Make sure that the display and its auxiliaries are correctly and reliability grounded prior to use.
10) Cut off the power supply and contact a technical professional upon discovery of any abnormality, including any unusual smell, smoke, power leakage, or abnormal temperature.
11) The device is supplied with two input sockets, both of which shall be disconnected to disconnect the power supply from the device.
12) Connect to a 100-240V AC power supply.

▪ Caution!

Failure to pay attention to the cautions herein can very likely result in failure to obtain the optimal display effect.

1) Wear anti-static gloves and anti-static bracelets when installing or repairing the product.
2) Make sure that the air on the back of the display will flow smoothly when designing a heat dissipation solution.
3) Make sure that the display is kept in a dry, well-ventilated environment with humidity not exceeding 80%
4) Make sure that the display is powered on at least twice a week for a period of at least two hours each time under normal conditions.
5) Installation of the display near the sea, in a saline area or an area containing sulphur gases, or a location with high indoor-outdoor temperature difference may result in failure to and affect the service life of the device. Please consult our technical professionals where this is unavoidable.

▪ Maintenance Precautions

After a period of use, if the display needs repairing, spare parts can be used to replace the broken ones; if there are problems that cannot be fixed on your side, please contact our sales representatives or after-sales service.

When our maintenance personnel are needed to help repair or maintain the display, please provide the following information to assist maintenance personnel for fault analysis.

1) Please check the label attached to the back of the panel to find the project identifier.
2) You need to briefly describe the problem. Any photo or video will help us quickly and effectively tell the failure reason, thus, to solve the problem as soon as possible.

WARNING: Do not mix the spare parts of the display from different projects together to avoid malfunction.

▪ Adjustment Precautions

1) Make sure all cables are properly wired before powering the display
2) When the display total power is above 30KW, it is recommended to power the display part by part to avoid undesired effects of excessive current on the power grid and display.
3) Control software and player need to be properly installed on a computer and cables of control system properly connected.

NOTE: All the necessary software and related instructions are kept on the provided USB, and its is recommended to back up a copy on a computer or cloud for any contingency.

▪ Operation Precautions

Before the operation of the display, you need to know the following content information: LED display is a complex system, including several electronic components, mechanical structure, hardware control system etc. Adjustment and inspection of the product is a must procedure and needs to be been finished before delivery. However, due to transportation, assembly at site, wiring etc, some problems may occur during first use. Please carefully check and debug the product to ensure normal function of the display.

Warning: Please flowing the dehumidifying procedures below when first use of the display or its is not used for more than 7 days. Following are dehumidifying procedures:

Set the display brightness in the range of 20~30%, and preheat for at least 12 hours, during which please play a normal video, and then adjust the display to a normal brightness to resume normal use.

Warning: Do not turn the display to a completely white image during the dehumidify procedure, otherwise permanent damage may be caused to the display

Warning: For later display operation process; if the screen is not used for 7 days or more, preheating is necessary for each power-on operation; preheat the display under 30% brightness for 6 hours, and then adjust it to normal brightness, which will remove the humidity.

▪ Electrical

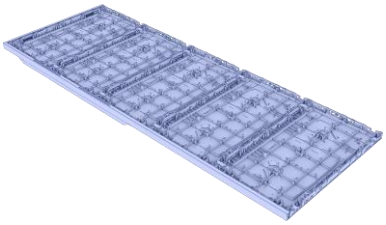
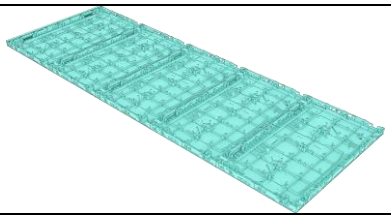
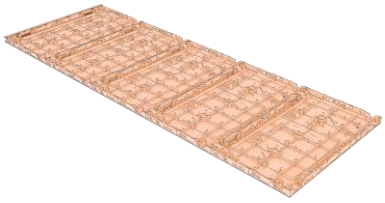
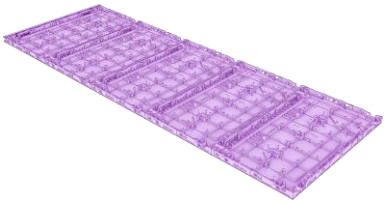
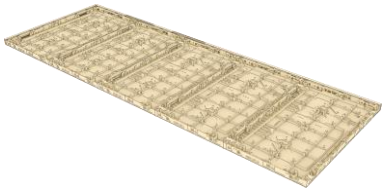
The power distribution system used must provide adequate protection against excess line current and leakage currents to earth.

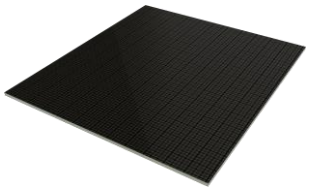
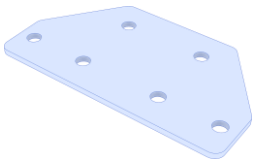
Electrical Characteristics for FHDC135							
At 100V AC Input				At 220V AC Input			
Parameter	Unit	Rating nom.	Max.	Parameter	Unit	Rating nom.	Max.
Input current	A	6.00	15.00	Input current	A	2.73	6.82
Input freq.	Hz	50 – 60	65	Input freq.	Hz	50 – 60	65
Power	Watt	600	1500	Power	Watt	600	1500

Thank you for purchasing and using our LED display.

It's recommended that this installation guide and user manual are placed in a prominent location allowing easy access for maintenance staff at any time.

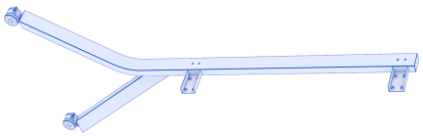
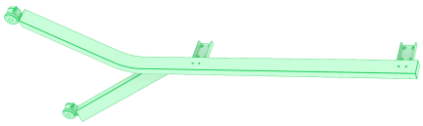
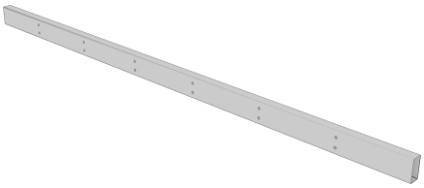
I. LED Display Parts List

Item	Image	Part Name	Quantity	Note.
1		Unit Chassis 1	1 PCS	• The inner sides of the five cabinets that make up Unit Chassis 1 are labeled with numbers 1 to 5.
2		Unit Chassis 2	1 PCS	• The inner sides of the five cabinets that make up Unit Chassis 2 are labeled with numbers 6 to 10.
3		Unit Chassis 3	1 PCS	• The inner sides of the five cabinets that make up Unit Chassis 3 are labeled with numbers 11 to 15.
4		Unit Chassis 4	1 PCS	• The inner sides of the five cabinets that make up Unit Chassis 4 are labeled with numbers 16 to 20.
5		Unit Chassis 5	1 PCS	• The inner sides of the five cabinets that make up Unit Chassis 5 are labeled with numbers 21 to 25.
6		Bottom Frames 1	1 Set	• This part is mounted on the left side of the frame module beneath the FHDC135. It must be assembled together with the "Bottom Frames 2" before it can be used.
7		Bottom Frames 2	1 Set	• This part is mounted on the right side of the frame module beneath the FHDC135. It must be assembled together with the "Bottom Frames 1" before it can be used.

8		LED Panel	200 PCS	• The LED panel is a key component in assembling the FHDC135 screen. • Its mounting surface features a POKA-YOKE design to prevent incorrect installation.
9		Wall-mounted bracket connector piece	2 PCS	• This part is used to connect & secure the wall-mount bracket 1 & 2 components, integrating them into a single unit.
10		Wall-mounted bracket 1	2 PCS	• Provides left structure for LED display unit to wall or rolling stand.
11		Wall-mounted bracket 2	2 PCS	• Provides right structure for LED display unit to wall or rolling stand.
12		Left-angle FFC cable	1 PCS	• The length is 416mm. • This cable is used to connect the system board of the bottom-side frame to the distribution board of Unit Chassis 3.
13		Right-angle FFC cable	1 PCS	• The length is 273mm. • This cable is used to connect the system board of the bottom-side frame to the distribution board of Unit Chassis 4.
13		FFC cable	3 PCS	• The length is 529mm. • This FFC cable is a signal cable used to connect Unit Chassis 1 & 2, Unit Chassis 2 & 3, and Unit Chassis 4 & 5.
14		Power cord	1 PCS	• This is the power cord used to supply AC power to the FHDC135. • The FHDC135 offers four types of power cords for customers to choose from: US standard, UK standard, EU standard, and Australia standard.
15		Locking block	10 PCS	• This is a fastening component used to assemble the bottom frame to the chassis. • This part is used in combination with the fixing pin of the bottom frame.

16		M8 Expansion Bolt	20 PCS	• This is a Expansion Bolt used to secure the FHDC135 wall-mount bracket to a concrete or brick wall. • This bolt is operated with a 13mm Hex Socket Wrench.
17		M8x35mm screw	28 PCS	• This is the screw used to assemble the FHDC135 wall-mount bracket to the floor stand. • This bolt is operated with a 13mm Hex Socket Wrench.
18		M6x10mm screw	12 PCS	• This screw is used to secure the wall mount bracket components into a single unit.
19		Large pan head M3x8mm	10P CS	• This screw is fastened onto the fixing pin of the bottom frame to ensure that the locking block installed on it does not come loose.
20		M3x6mm screw with washer	3 PCS	• This screw is used to secure Bottom Frame 1 and Bottom Frame 2 as a single assembled unit.
21		M3x8mm screw with washer	2 PCS	• This screw is intended for mounting the Wi Fi antenna from the option kit within the system control box.

II. Floor Stand Parts List (Option)

Item	Image	Part Name	Quantity	Note.
1		Left-side vertical column	1 PCS	• Provides the vertical structure to mount the main beams and provides rollers for the stand.
2		Right-side vertical column	1 PCS	• Provides the vertical structure to mount the main beams and provides rollers for the stand.
3		Horizontal bracket	2 PCS	• Provides a horizontal structure between the 2 vertical column assemblies and provides an attachment surface for the mount bars.
4		M8x20mm screw	16 P	• This screw is used to secure the assembly of the floor stand's vertical column and horizontal bracket. • This bolt is operated with a 13mm Hex Socket Wrench.

III. List of Tools and Accessories Used

Item	Image	Part Name	Quantity	Note.
1		Phillips Screwdriver	1 PCS	• Tools for removing and installing Phillips head screws.
2		No. 5 hexagonal wrench	1 PCS	• This tool is used for operating the side hook mechanism inside the unit chassis for assembling or disassembling.
3		13mm Hex Socket Wrench	1 PCS	• This tool is used for fastening or removing the nut of the rivet bolt and the M8 screws used in the entire unit.
4		Vacuum Suction Tool	1 PCS	• This is a vacuum suction tool specifically used for assembling and disassembling COB LED panels.
5		Magnetic Pickup Tool	1 PCS	• This is a magnetic tool used for removing the cover plate of the bottom frame.
6		Anti-static Gloves	5 PCS	• Wearing these gloves helps the technicians eliminate static and protect the LED display during the assembly or maintenance of the FHDC135.

Wall-mounted installation

Wall-mounted installation effect picture

Pre-Installation Statement for Wall-Mounted LED Screen
This document outlines the necessary steps for pre-installing a wall-mounted LED screen to ensure seamless integration upon final installation. All preparations must comply with industry standards and safety regulations.

Structural Assessment & Preparations

- Evaluate the wall's integrity and load-bearing capacity to confirm suitability for the LED screen.
- Reinforce the wall if required, ensuring it can support the screen's weight and mounting hardware.
- Plan conduit routes for power and data cables, ensuring accessibility and compliance with electrical standards.

Power & Connectivity Setup

- Pre-install electrical outlets and power sources in designated locations.
- Route and secure data cables, including necessary signal connections for seamless screen operation.
- Test power and network connections to confirm functionality.

Environmental & Safety Considerations

- Ensure adequate ventilation and airflow around the mounting area to prevent overheating.
- Verify compliance with safety codes for fire, electrical, and structural integrity.
- Conduct a final inspection before the LED screen arrives to guarantee all pre-installation components are correctly positioned.

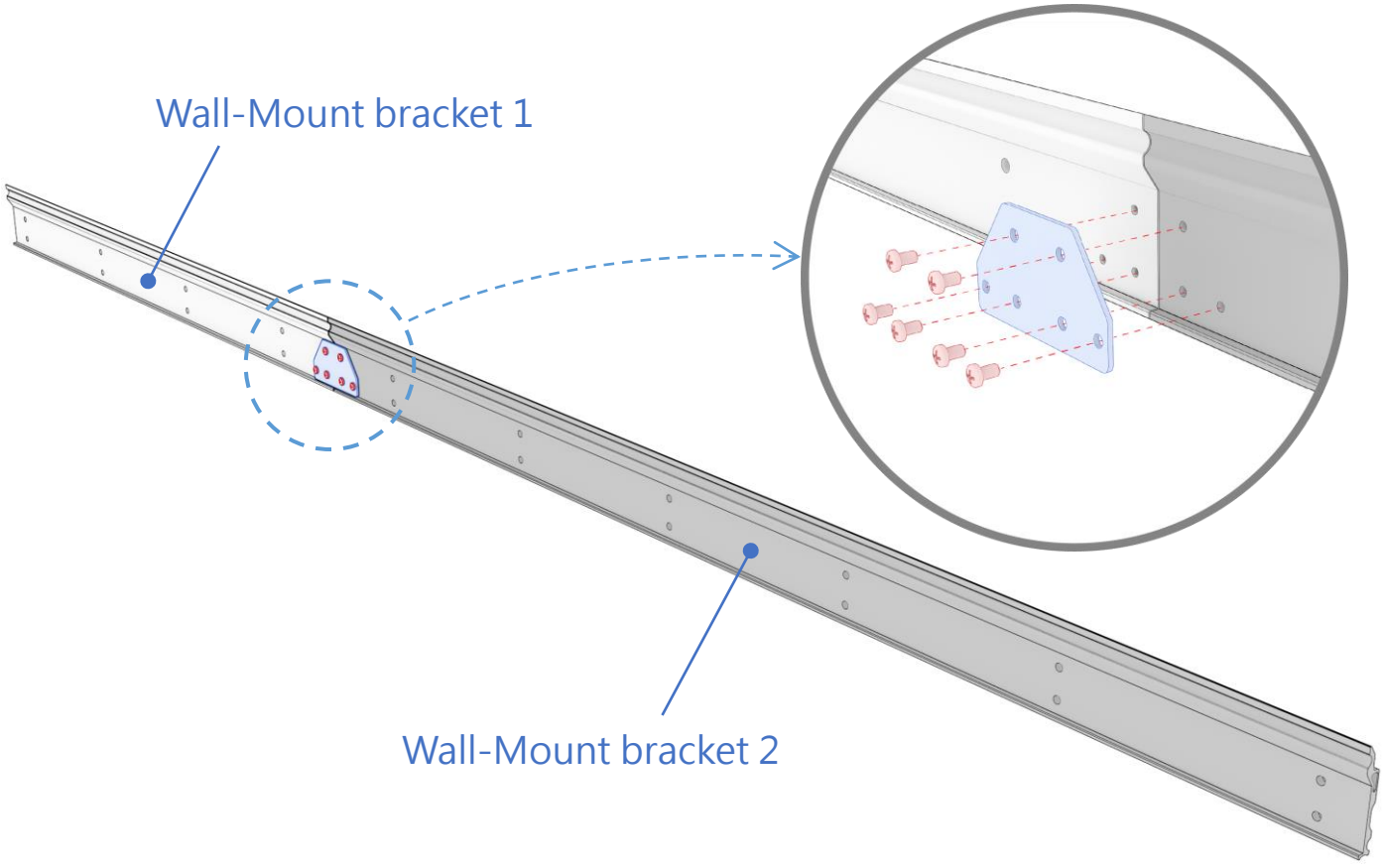
The above pre-installation setup looks to support a smooth installation process.

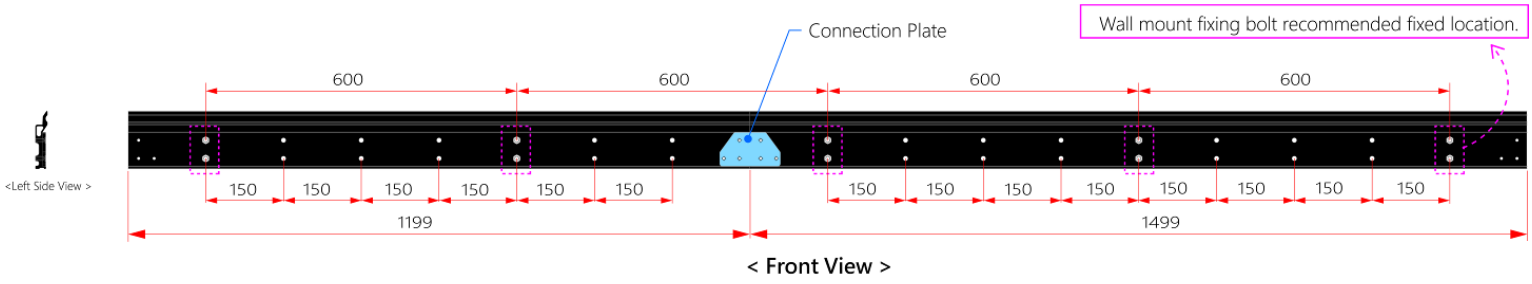
Installation steps：

1) According to the on-site environment, combined with the height of the large screen from the ground, determine the drilling positions of the upper and lower wall mounts. To ensure horizontal alignment, a spirit level is required.
2) The upper wall mount and lower wall mount are respectively composed of wall mount bracket 1 and wall mount bracket 2, connected by connectors. Six M6*10 countersunk head screws are used to fix the connectors.

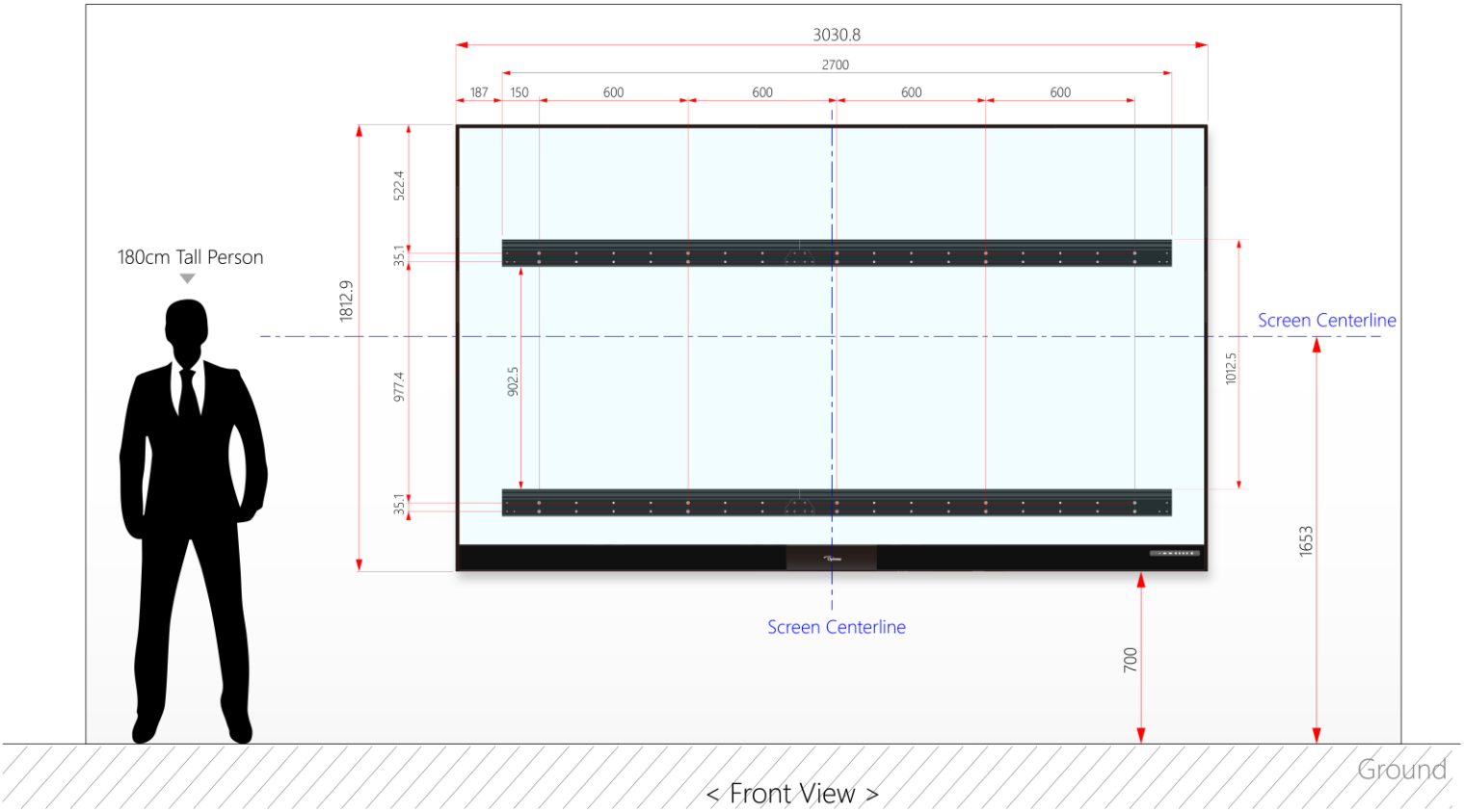

Phillips Screwdriver


M6x10mm * 12 PCS


Wall-Mount bracket 1
Wall-Mount bracket 2

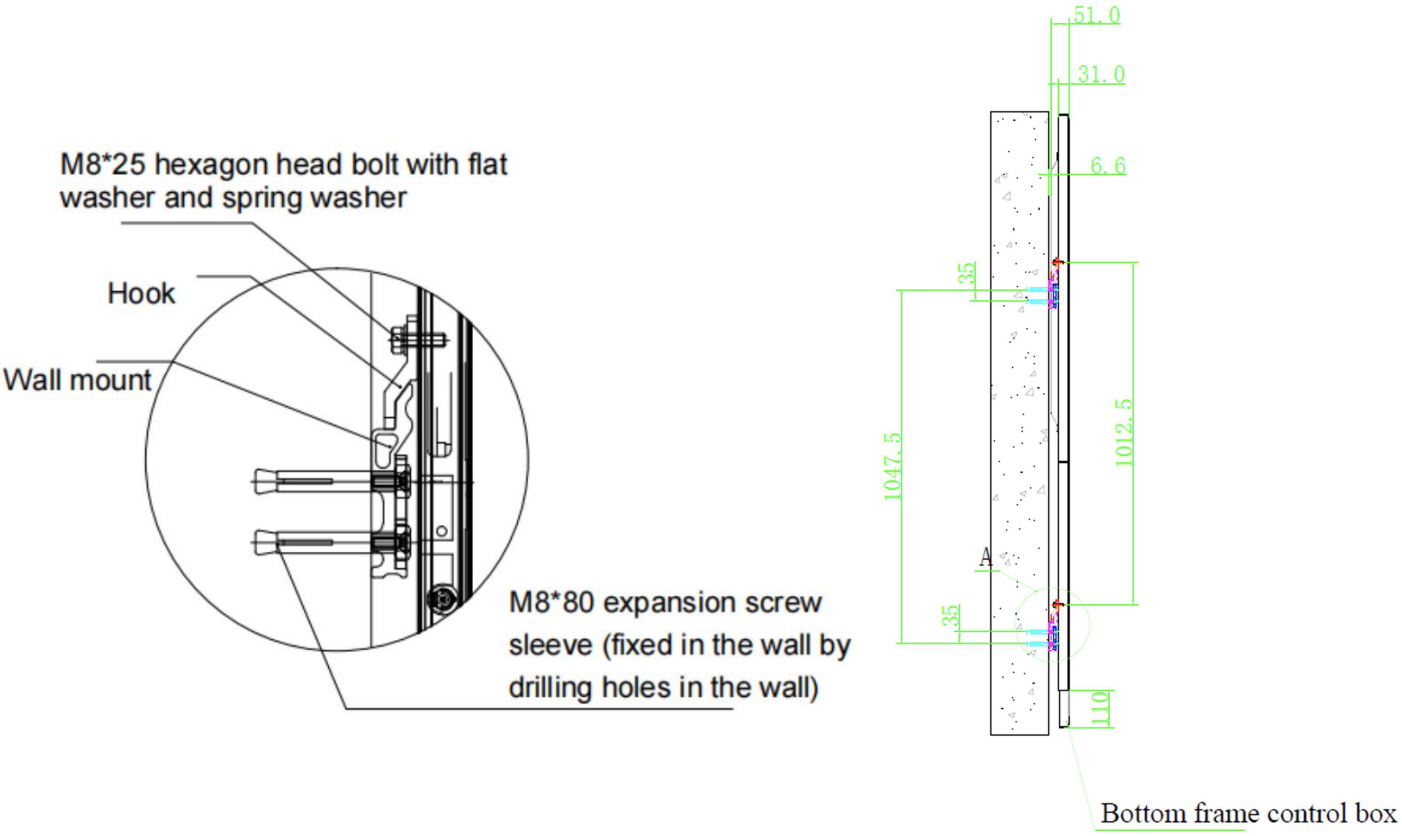

Connection Plate
Wall mount fixing bolt recommended fixed location.
600
600
600
600
150
150
150
150
150
150
150
150
150
150
150
150
150
150
1199
1499
<Left Side View >
< Front View >

3) The drilling hole positions for wall mount 1 and wall mount 2 are as shown in the diagram.



1) Mark the appropriate hole positions on the wall and drill holes at the marked points using a tool, with each hole having a diameter of 10mm.
2) The yellow-circled positions in the diagram indicate the essential mounting holes for installing the FHDC135 wall mount bracket, with a total of 20 fixation points.
3) Use M8*80 expansion bolt for installation at the corresponding hole position, as shown in the figure below;

1) Side sectional view of the installed wall mount.



2) The front view of the installed wall mounts is as shown in the figure below. The upper hanging bar and lower hanging bar are parallel to the ground and aligned up and down with each other. The distance between them is 1012.5mm.

3) Check if the wall mount is installed properly, by determining : 1) if it is level; 2) if the distance between the upper and lower wall mounts is correct. You can check and adjust using the following methods :

I. Use a spirit level to measure if the wall mount is level. If it is not level, adjust it by loosening the expansion bolts, gently push it to be level by hand, then tighten the bolts.

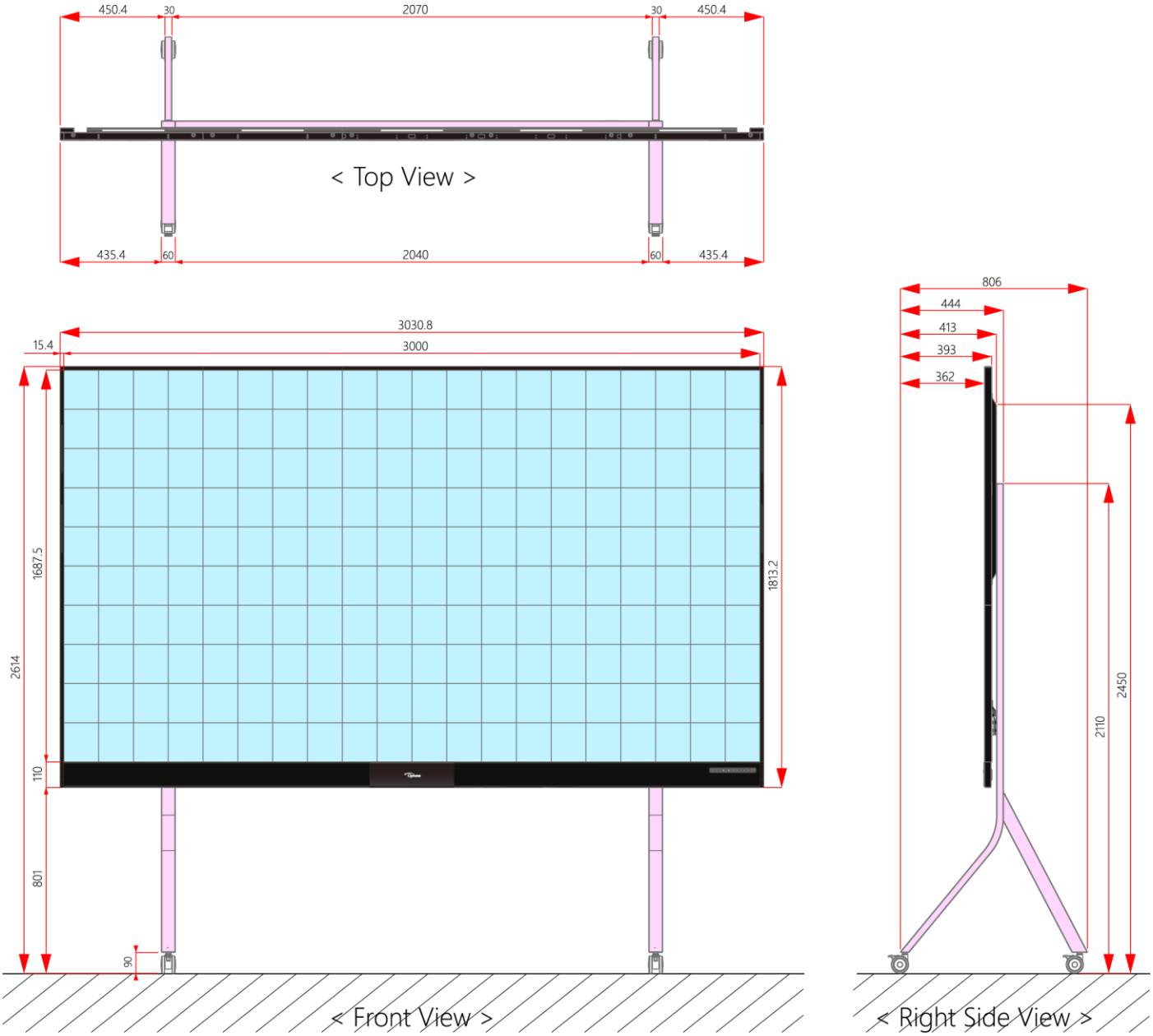
II. Use a tape measure to check if the distance between the upper and lower wall mounts is correct. If it is incorrect, adjust it by loosening the expansion bolts, lightly pushing to adjust the distance by hand, and then tightening the bolts.

4) Install the cabinets according to the installation steps of those for the floor standing installation.

Floor-Standing Installation

Floor standing installation effect

1. Floor-standing FHDC135 Dimension Diagram



2. Usage and Operating Precautions

CAUTION

- This Stand is to be used with OPTOMA FHDC135 LED display only. Using this stand with other models may cause instability and injury.

TIPPING HAZARD!

- DO NOT roll the stand over cable, uneven, dirty, soft, or high incline surfaces.
- DO NOT push the front of the display. Always unlock the wheels before moving.

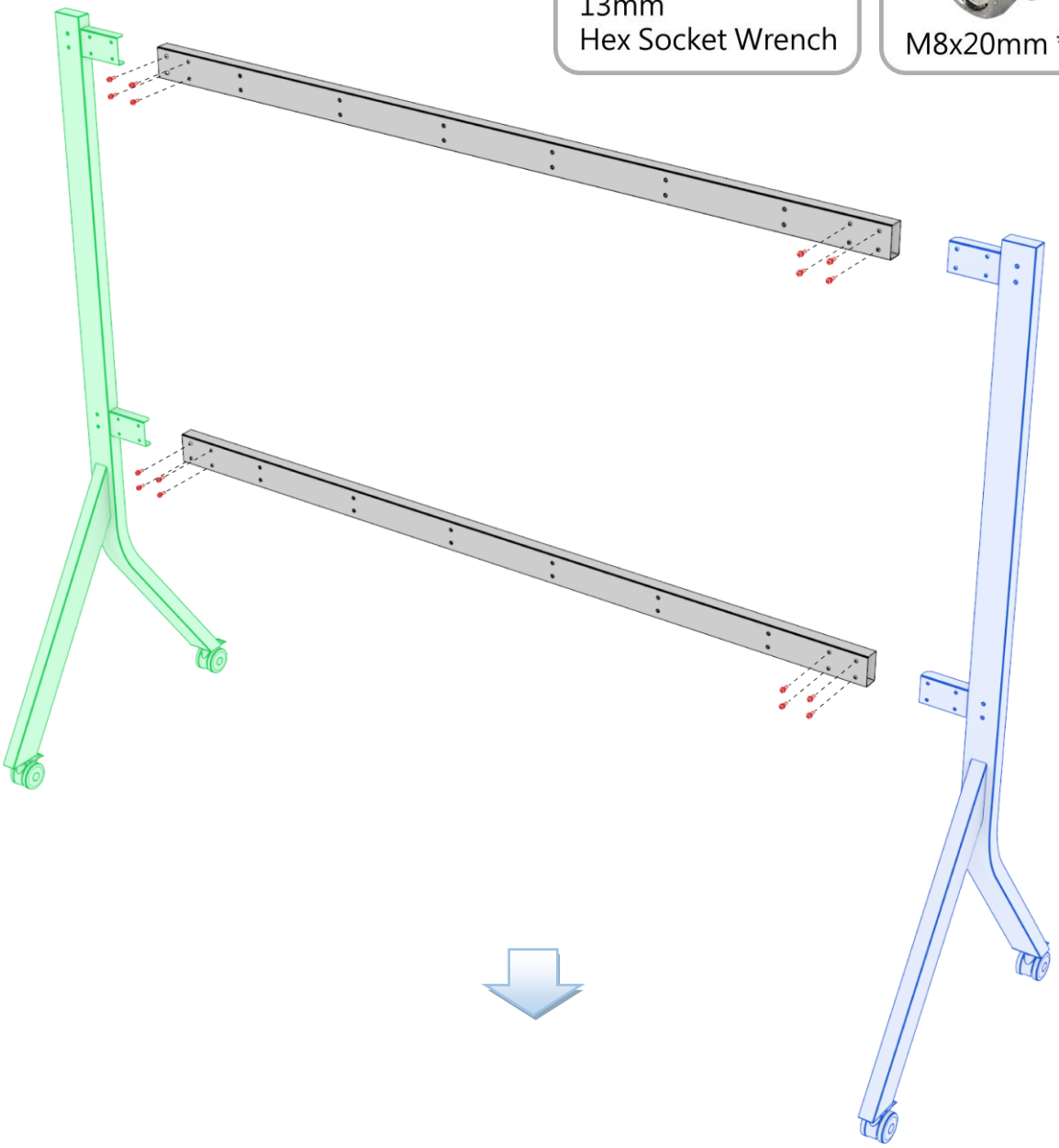
Failure to comply with this caution may result in equipment damage and personal injury.

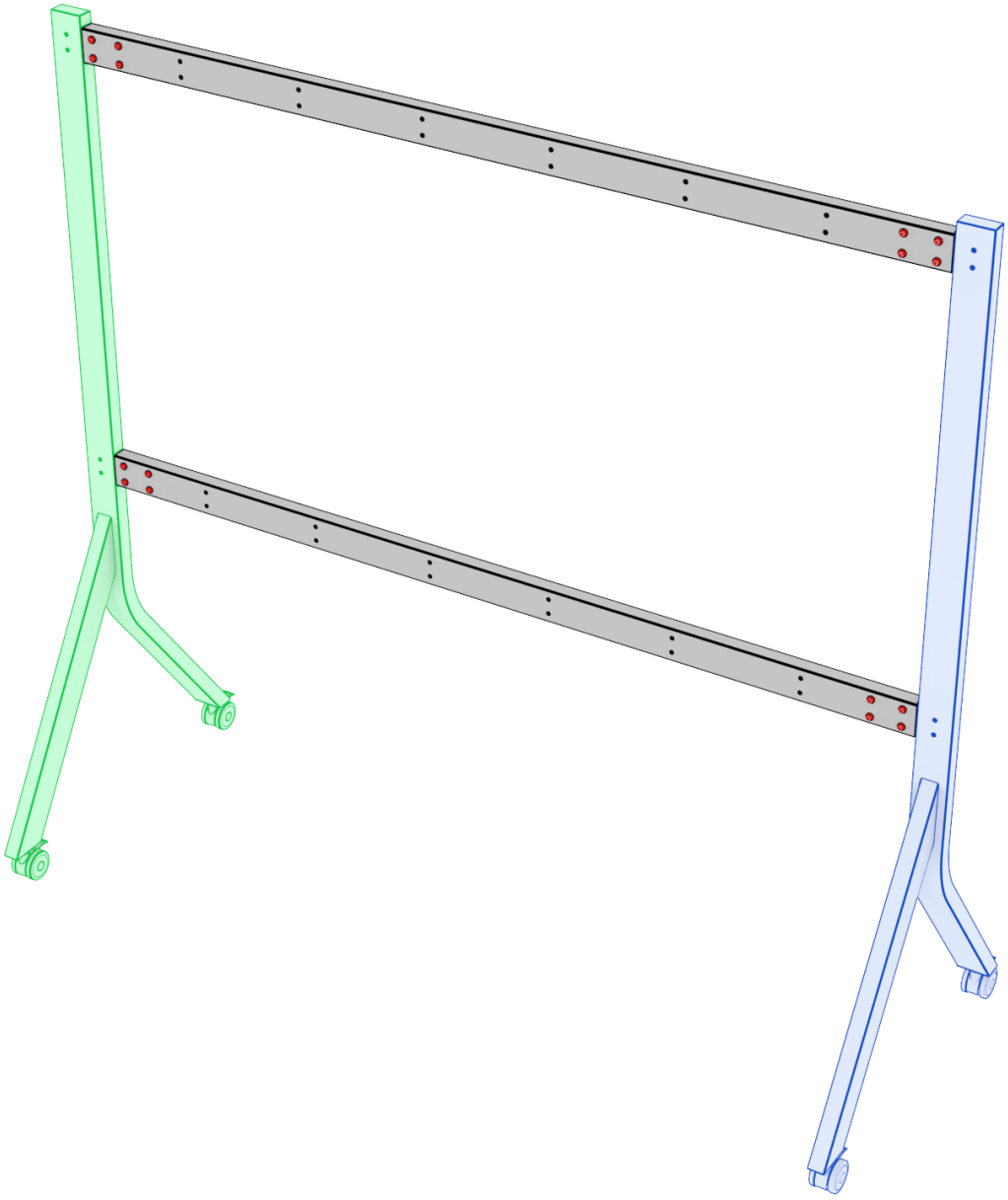
Installation steps：

Step 1： Assemble the floor stand

1) Based on the detailed list of floor stand assembly, find the corresponding components, as shown in the figure below：

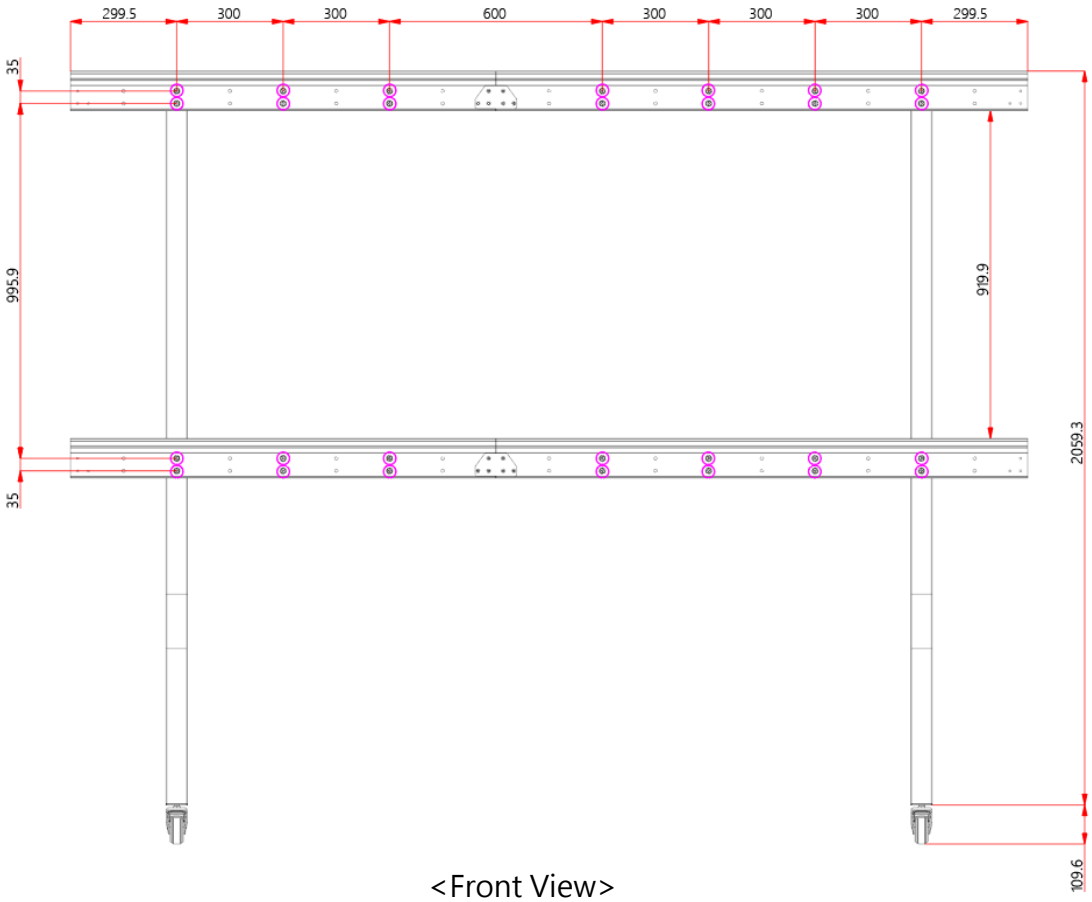
2) Tighten the mounting screws with an appropriate tool to complete the installation of the floor stand assembly, as shown in the figure below：



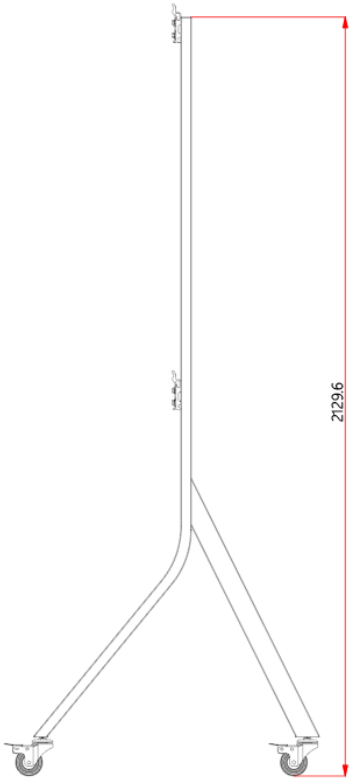


Step 2： Install the FHDC135 wall mount onto the floor stand

1) The diagram below is an elevation view of the floor stand with the FHDC135 wall mount installed. The marked positions in the pink circles indicate the screw locking points for mounting the wall mount.



<Front View>



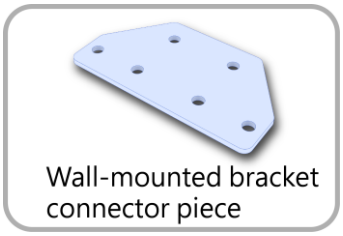
<Right Side View>

2) The FHDC135 LED display wall mount is assembled by connecting Wall-Mount Bracket 1 and Wall-Mount Bracket 2 using the Wall-Mounted Bracket Connector Piece. There are a total of two sets of wall mounts.

For mounting the wall mount onto the floor stand, the following components and tools need to be prepared in advance：

Components：

- Wall-Mounted Bracket Connector Piece * 2 pcs
- Wall-Mount Bracket 1 * 2 pcs
- Wall-Mount Bracket 2 * 2 pcs



Fasteners：

- M8*35mm screws * 28 pcs
- M6*10mm screws * 12 pcs

Tools：

- Phillips Screwdriver
- 13mm Hex Socket Wrench

Below are the OPTOMA recommended instructions for assembling the FHDC135 wall mount onto the floor stand, using the wall mount bracket located on the lower side of the floor stand as an example.

Step 1

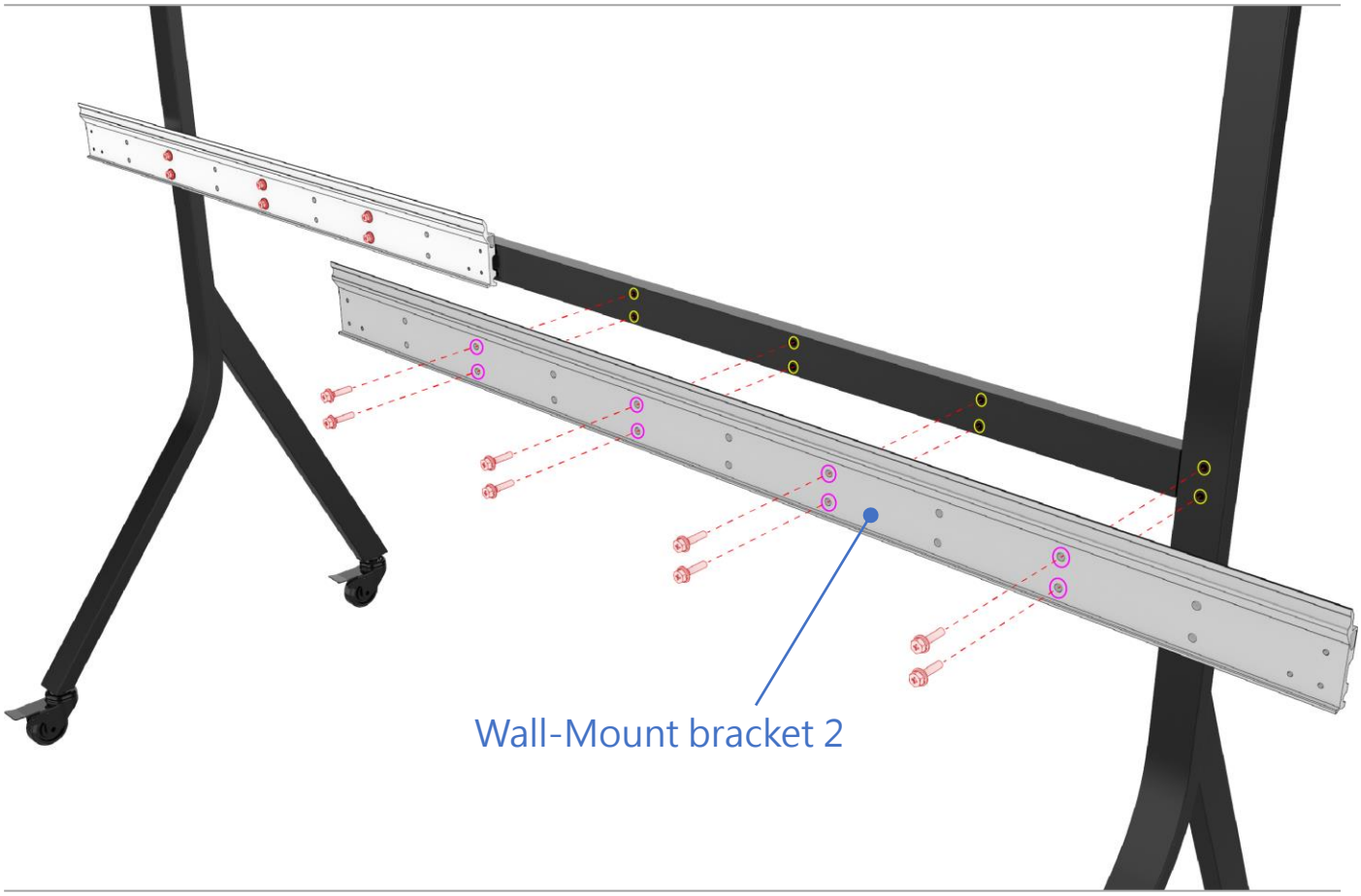
Use a 13mm Hex Socket Wrench to fasten six M8*35mm screws at the screw hole positions shown in the diagram, securing Wall-Mount Bracket 1 to the floor stand.

The pink-circled marks in the diagram indicate the screw holes where the screws pass through Wall-Mount Bracket 1, while the yellow-circled marks indicate the screw holes for securing the screws to the floor stand.

Step 2

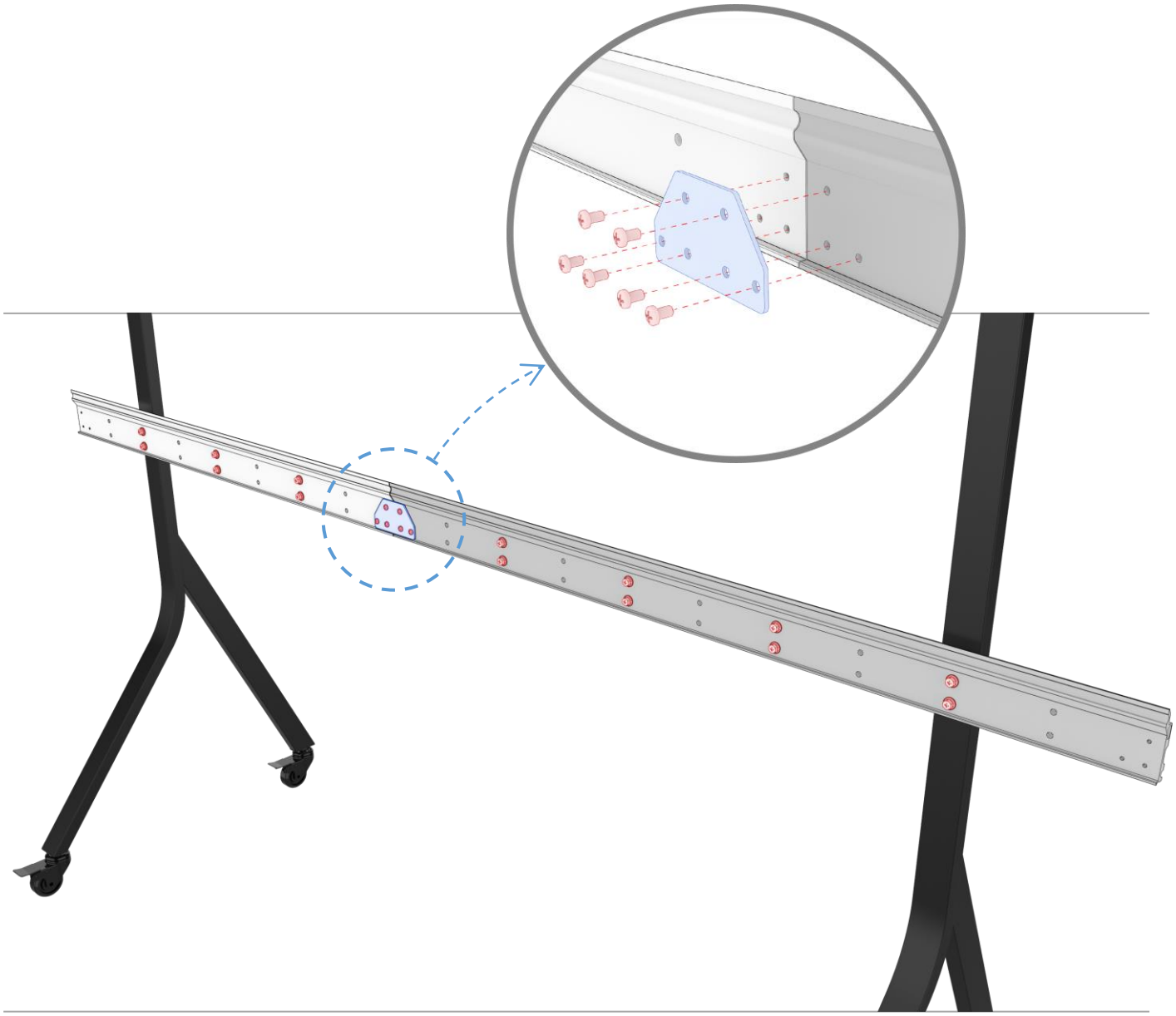
Next, use a 13mm Hex Socket Wrench to fasten eight M8*35mm screws at the screw hole positions shown in the diagram, securing Wall-Mount Bracket 2 to the floor stand.

Similarly, the pink-circled marks in the diagram indicate the screw holes where the screws pass through Wall-Mount Bracket 2, while the yellow-circled marks indicate the screw holes for securing the screws to the floor stand.



Step 3

Finally, use a Phillips Screwdriver to fasten six M6*10mm screws at the screw hole positions shown in the diagram, securing the Wall-Mounted Bracket Connector Piece to Wall-Mount Bracket 1 and Wall-Mount Bracket 2, connecting them into a single unit.

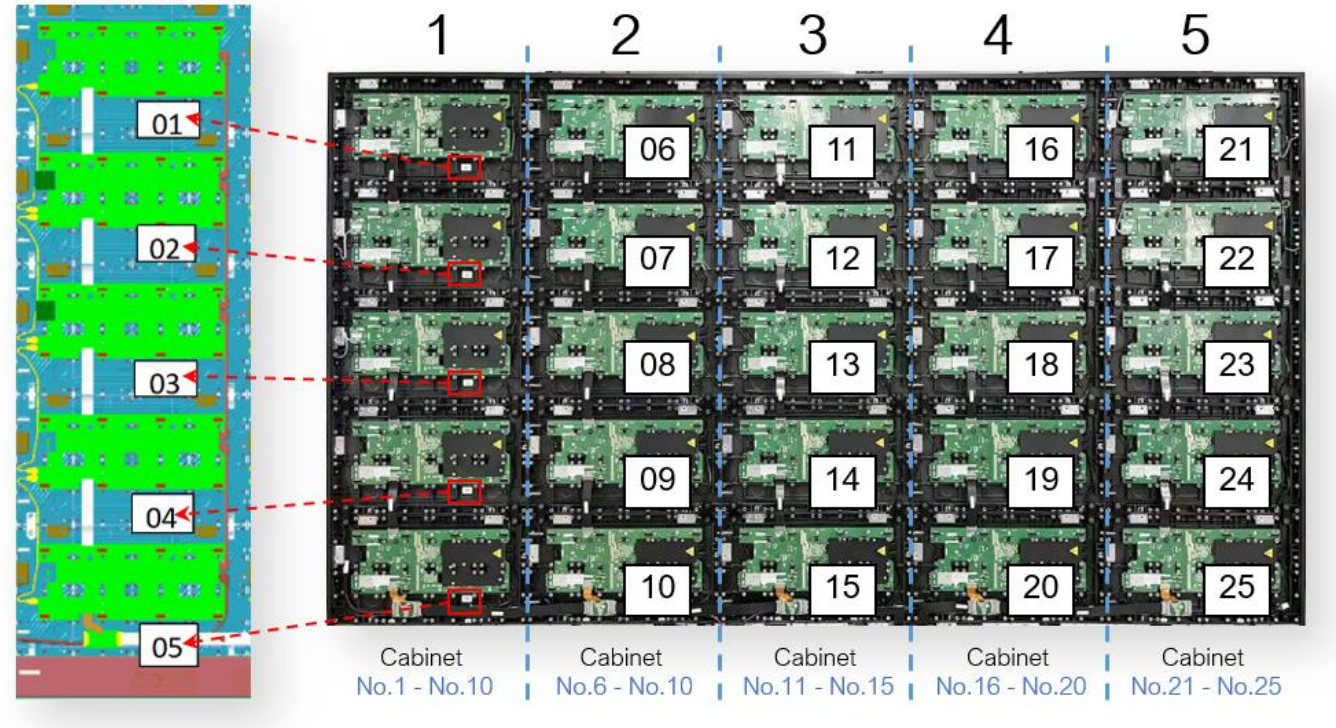


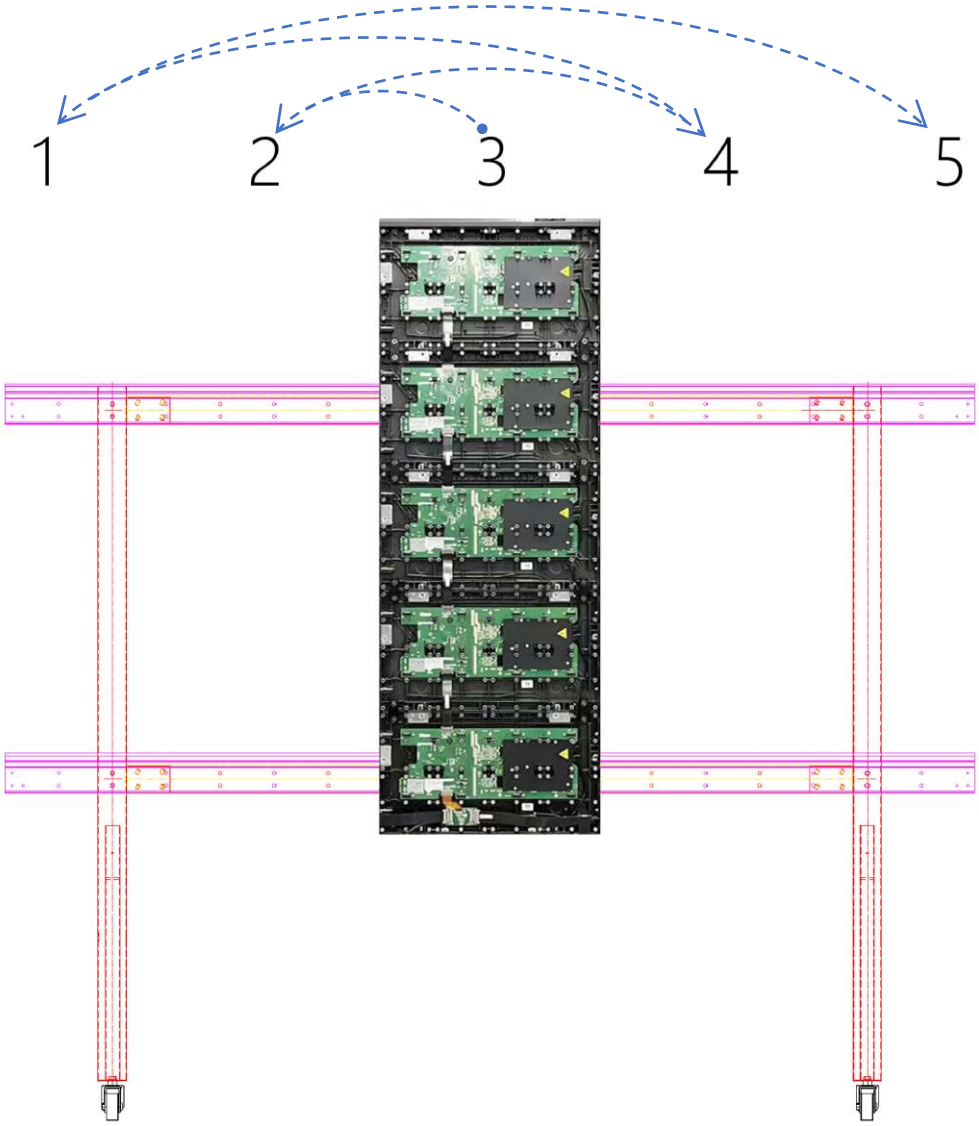
The assembly method for the upper wall mount on the floor stand is the same as described above. The diagram below shows the completed appearance of the FHDC135 floor stand after assembly.

Step 3： Assemble the unit chassis

1) The unit chassis assembled in columns have been pre-installed with back hooks and edging.
2) The integrated LED display is shipped with the unit chassis arranged in a column according to their numbers, with a total of 5 columns arranged for FHDC135.
3) The method to distinguish the unit chassis numbers of the 5 columns of the FHDQ135 is by identifying the label numbers attached to the inside of each cabinet. As shown in the diagram：
   - Cabinet label numbers 1–5 correspond to unit Chassis 1.
   - Cabinet label numbers 6–10 correspond to unit Chassis 2.
   - Cabinet label numbers 11–15 correspond to unit Chassis 3.
   - Cabinet label numbers 16–20 correspond to unit Chassis 4.
   - Cabinet label numbers 21–25 correspond to unit Chassis 5.

4) OPTOMA recommends the assembly sequence for the 5 columns of FHDC135 LED panel units as follows: 3, 2, 4, 1, 5.



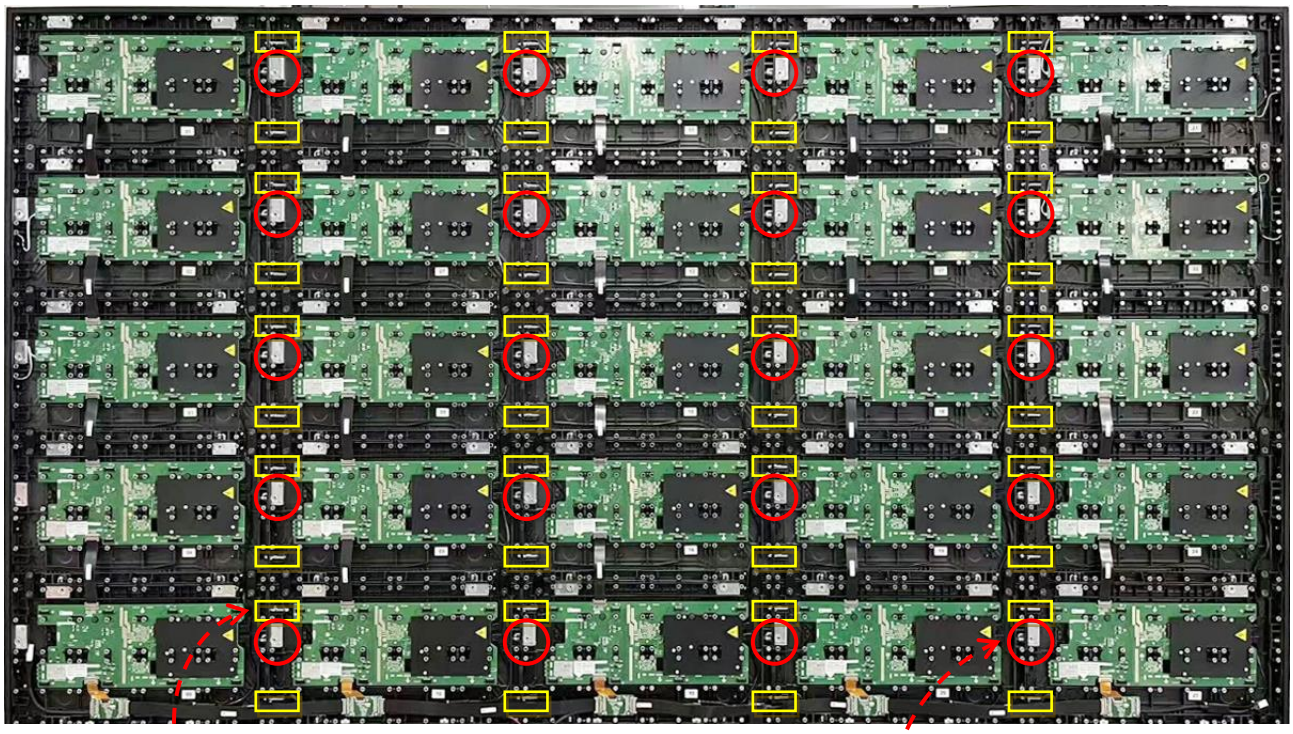

1
2
3
4
5

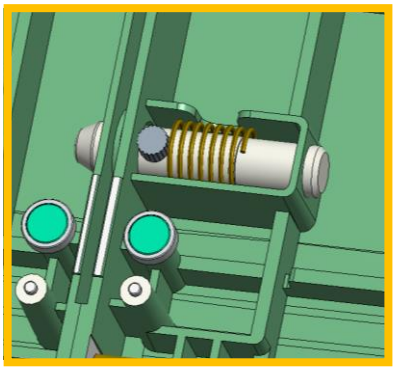
Step 4： Assemble the whole

* Before hanging the unit chassis, make sure the casters of the floor stand are locked, & the wall mount is level.

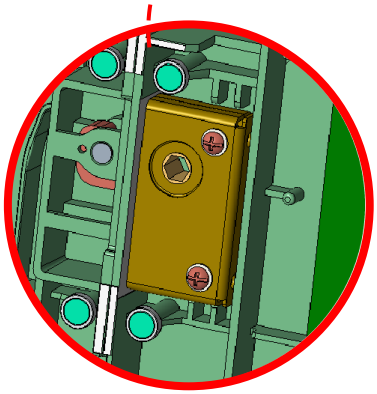
1) Hang the unit chassis from the middle to the sides, and hang the wall mount on the cabinet on the wall mount on the floor stand;

2) Install the adjacent second column of unit chassis, making the hooks hang on the wall mounts, while the adjacent sides are tightly aligned. Pull out the side spring locating pin, insert the locating pin completely into the corresponding locating hole, and then rotate the side hook lock with a corresponding Allen wrench to completely lock the two columns of unit chassis, as shown in the figure below :



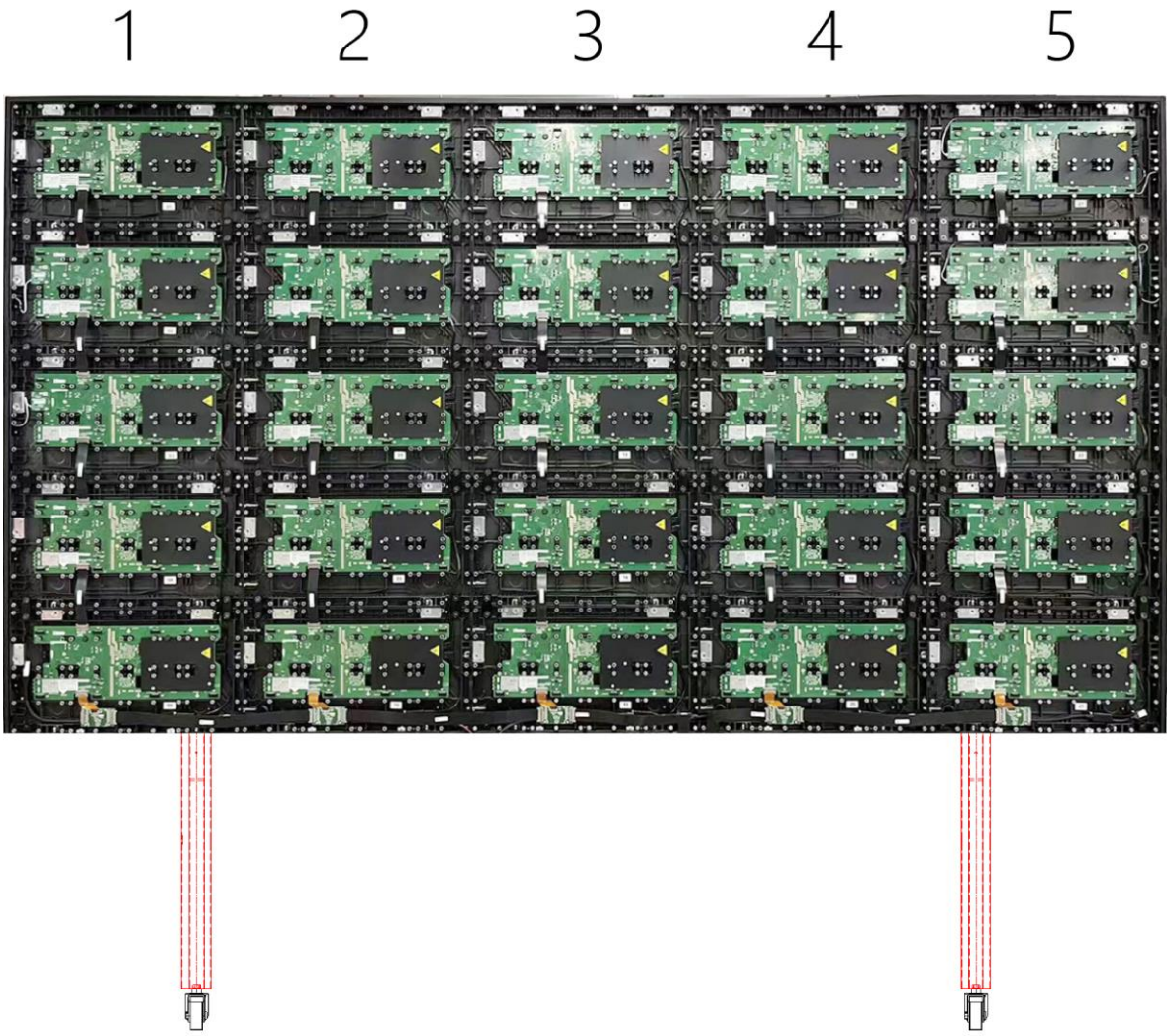


- Location pin * 40 PCS



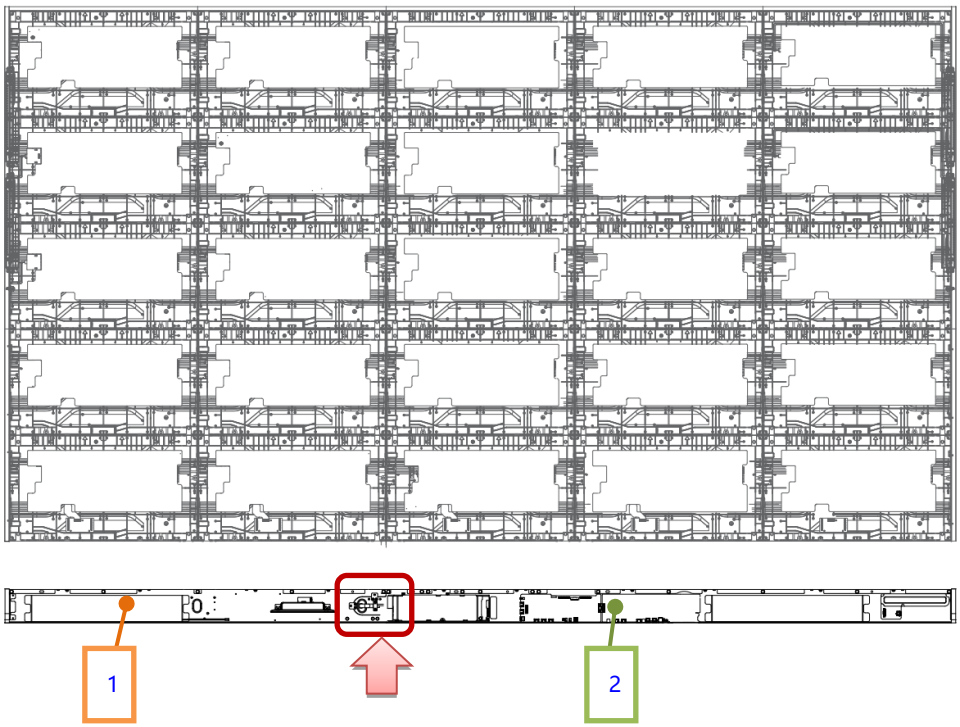
- Side hook * 20 PCS

3) Complete the installation of the other columns of unit chassis in order, as shown in the figure below :

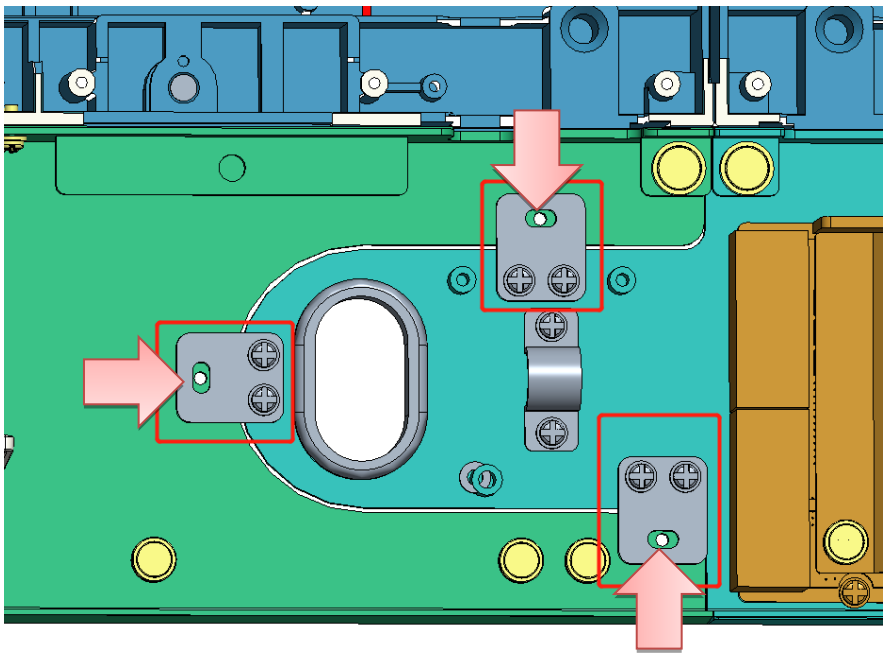


Step 5： Assemble the bottom frame

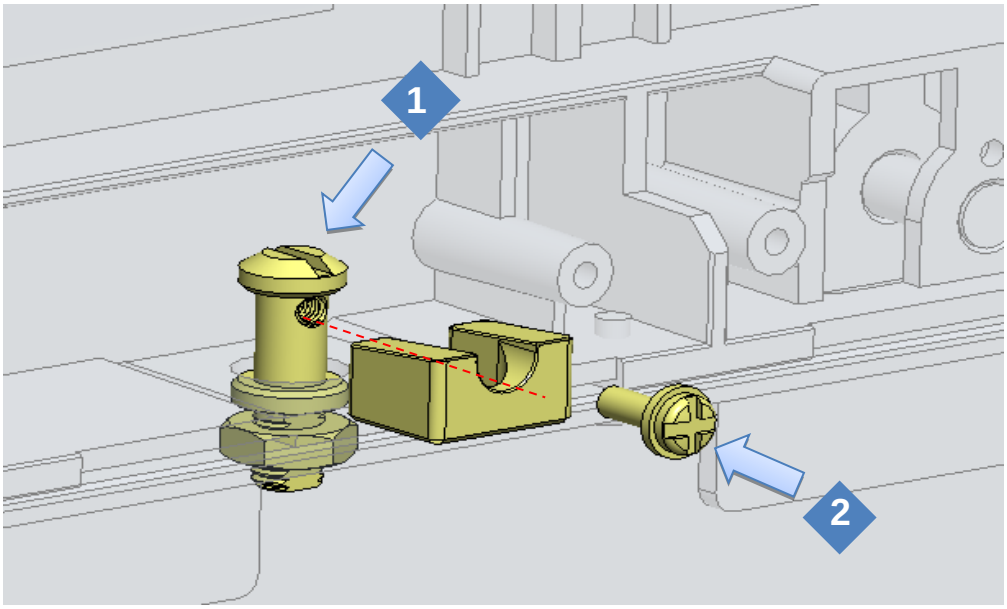
1) The bottom frame assembly is composed of bottom frames 1 and 2, connected by the built-in connecting plate for the bottom frame, as shown in the figure;



2) Use 1 piece of connecting plate to fix and splice left and right bottom frames of the FHDC135 display. Use 3 pieces of M3 screws to fix the plate at the indicated positions in the diagram.



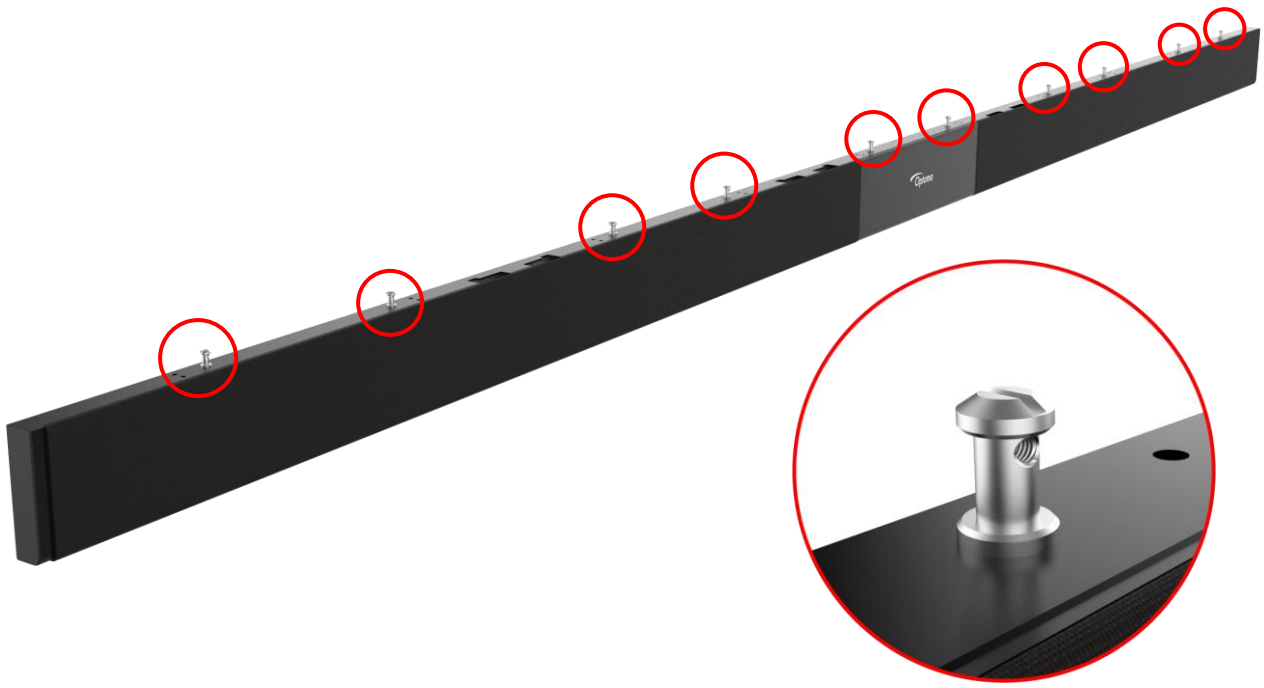
3) The bottom frame is fixed to the cabinet assembly with locking blocks and retaining screws (insert the locking block first and then drive in the screws to fix), as shown in the figure below：




Phillips Screwdriver

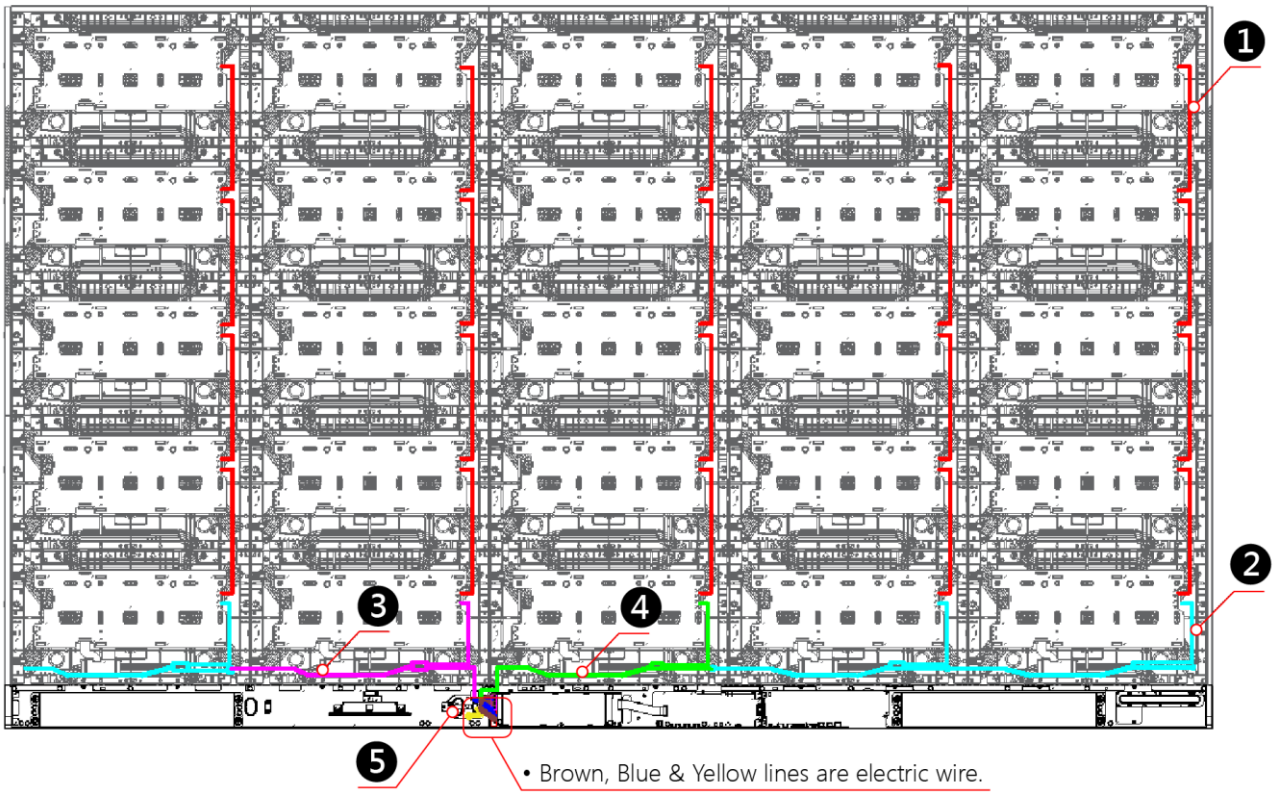

M3x6mm * 10 PCS

4) The bottom frame of the FHDC135 LED display has 10 fixing pins that connect with the cabinet. The assembly and fixing method are as described above.

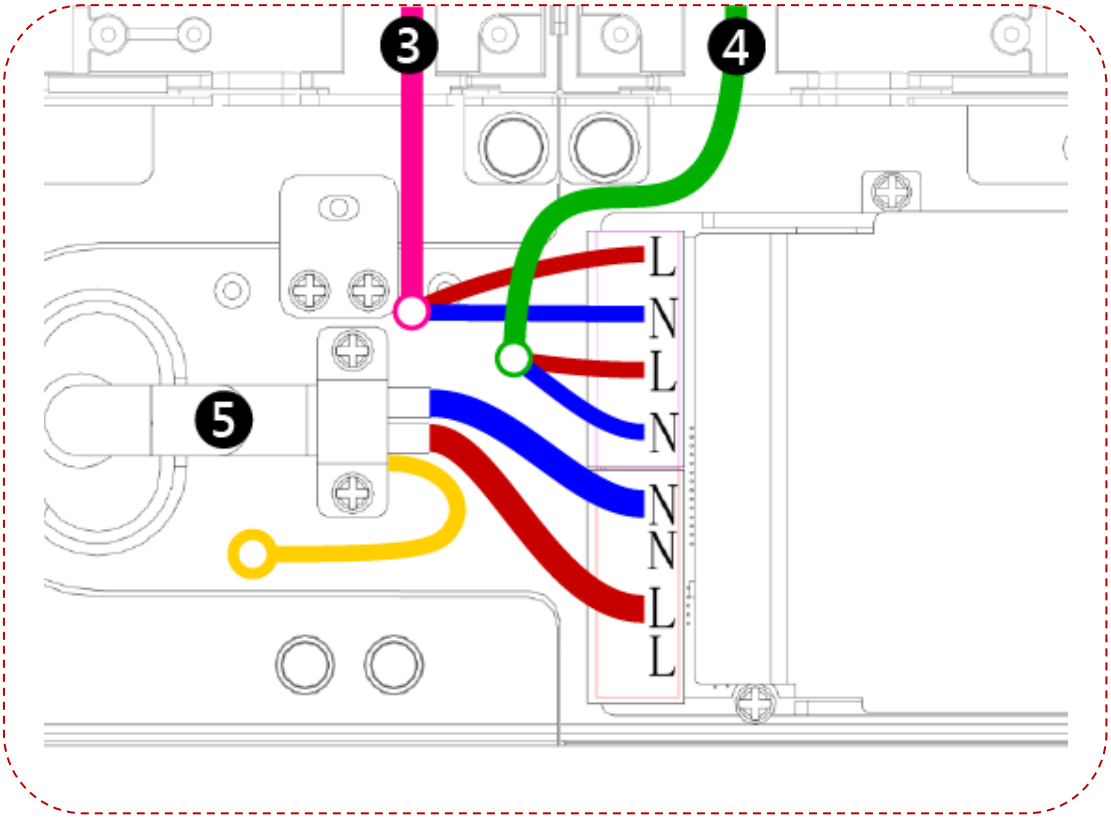


Step 6： Cable routing

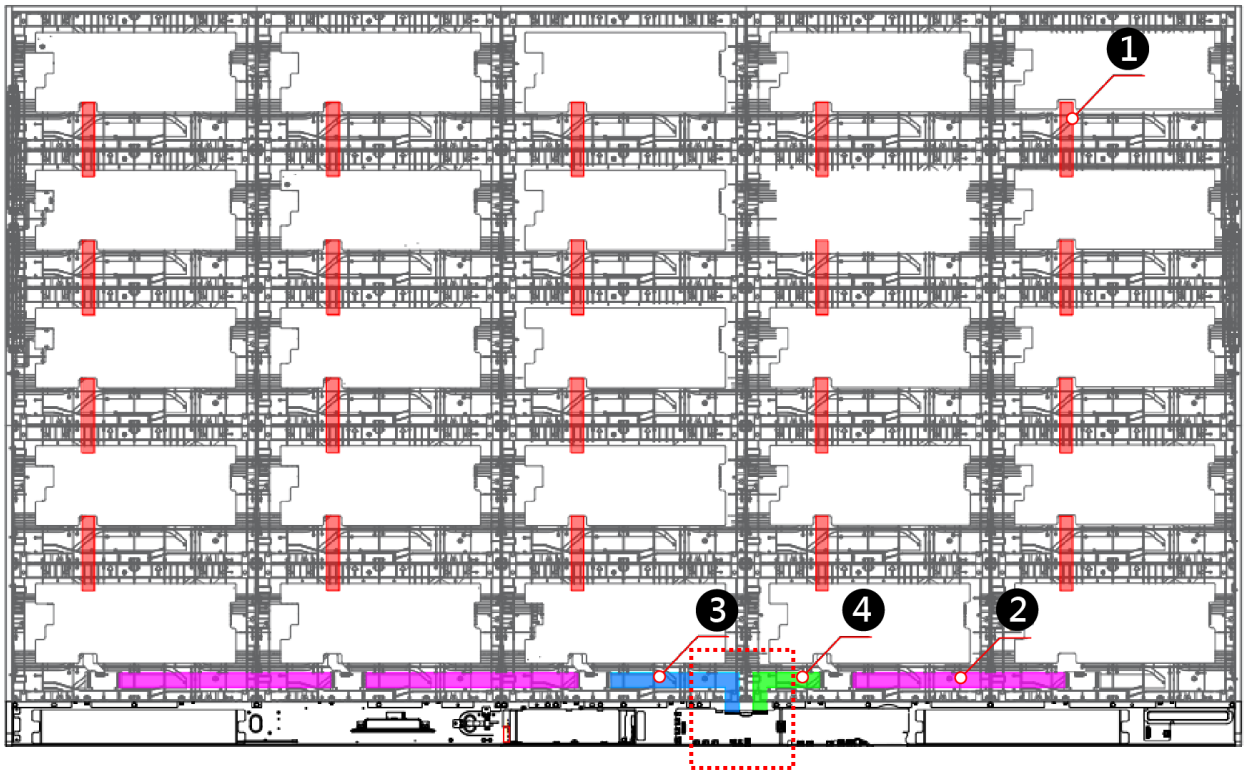
1) First, connect the power and signal cables between the unit chassis according to the diagram. Then, connect the signal and power cables to the bottom frame assembly (e.g. FHDC135). As shown in the figure below：



No.	Part Name	Quantity	Remarks
1	Vertical cascading power cable between the cabinets 20.	20	
2	Horizontal cascading cable between the cabinets.	3	
3	Horizontal cascading cable between the cabinets - left cascading.	1	
4	Horizontal cascading cable between the cabinets - right cascading.	1	
5	Input power cable.	1	

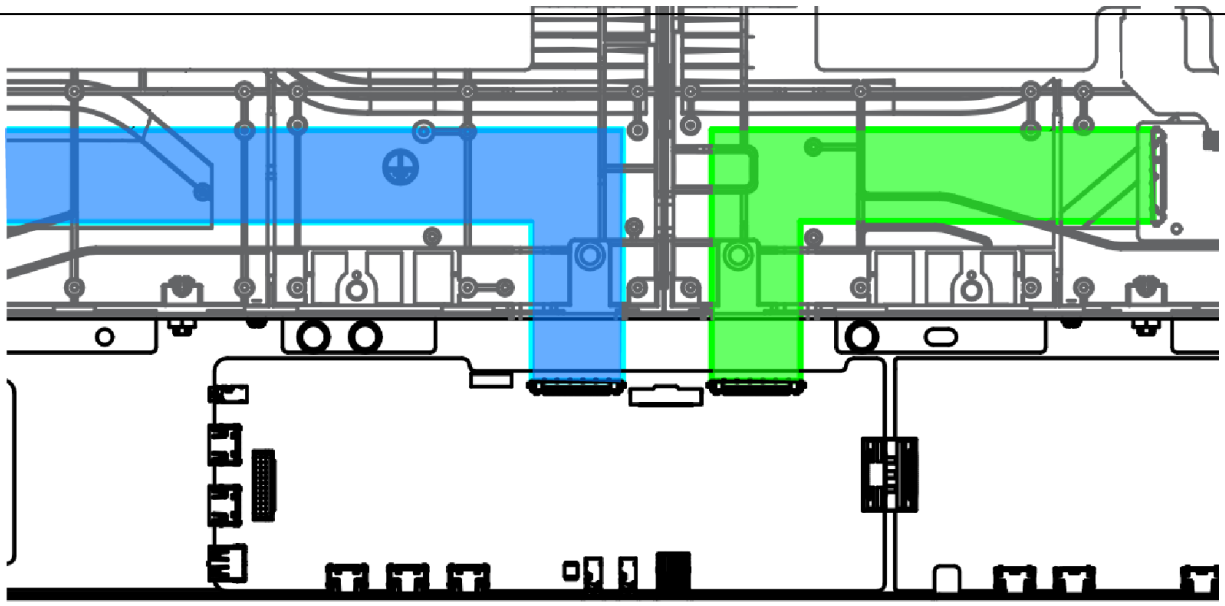


- PSU cable routing (Detail View)



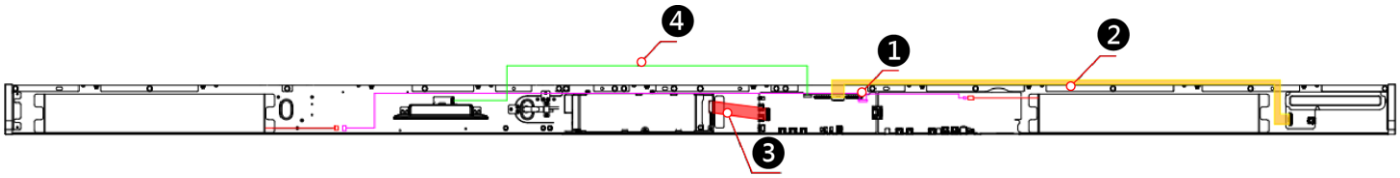
- Signal cable routing

No.	Part Name	Quantity	Remarks
1	Vertical signal FFC between the cabinets.	20	
2	Horizontal signal FFC between the cabinets	3	
3	Horizontal signal FFC between the cabinets - left cascading.	1	
4	Horizontal signal FFC between the cabinets - right cascading.	1	



- Signal cable routing detail view

4) Connect the cables inside the bottom frame as shown in the diagram below：



No.	Part Name	Quantity	Remarks
1	Speaker branch cable.	1	
2	Keyboard & transmitter card FPC.	1	
3	Transmitter card & power module wire harness.	1	
4	Wi-Fi module & transmitter card patch cord.	1	

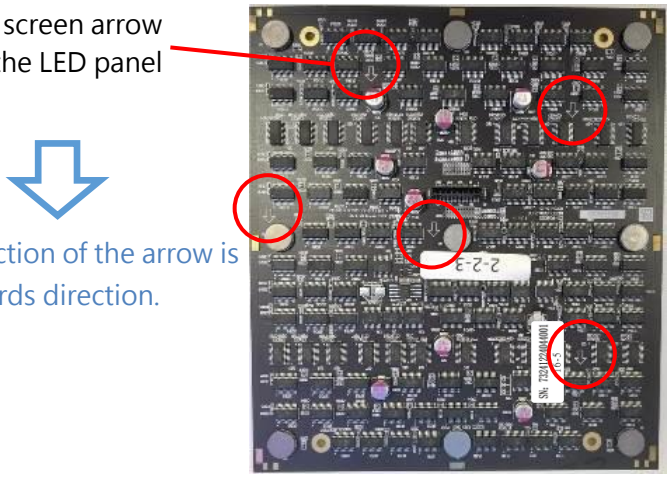
Step 7： Install the LED panel

* The installation sequence can be from left to right, from right to left, from bottom to top, or from top to bottom, depending on the on-site installation environment.

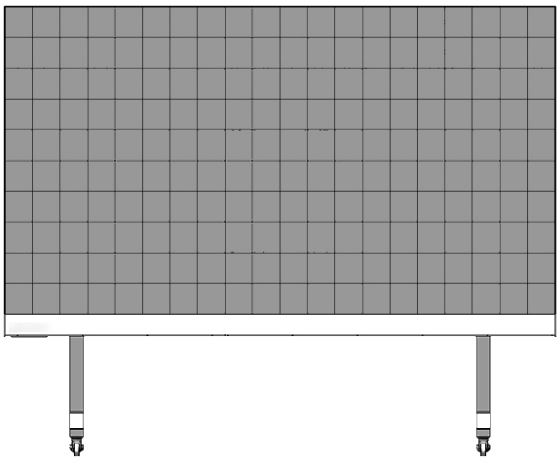
* Fix promptly if flatness is poor during assembly;

1) The connection method of the LED panel is a hard connection, which is connected through the connectors on the bridge board and the module. When installing, be sure to control the force and avoid forcefully inserting. Installation direction is opposite to the direction indicated by the arrow on the LED panel (i.e., LED panel rotated 180° for assembly), as shown in the figure below：

Silk screen arrow on the LED panel

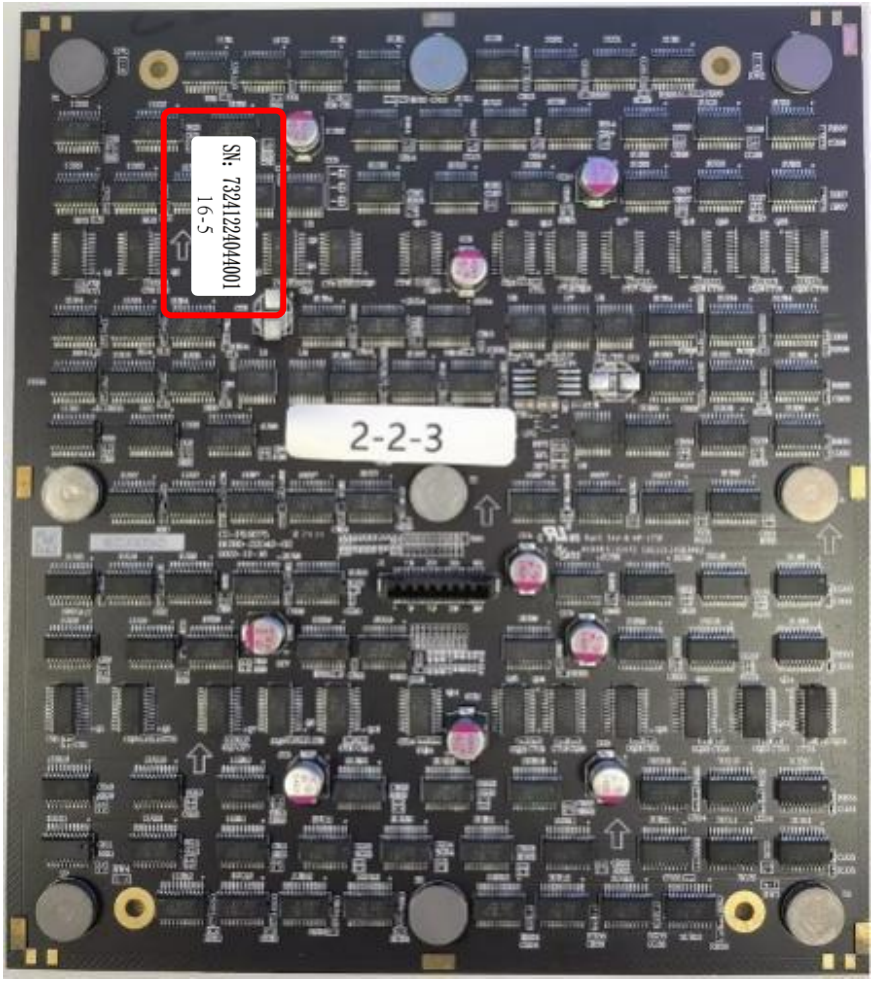


The direction of the arrow is downwards direction.

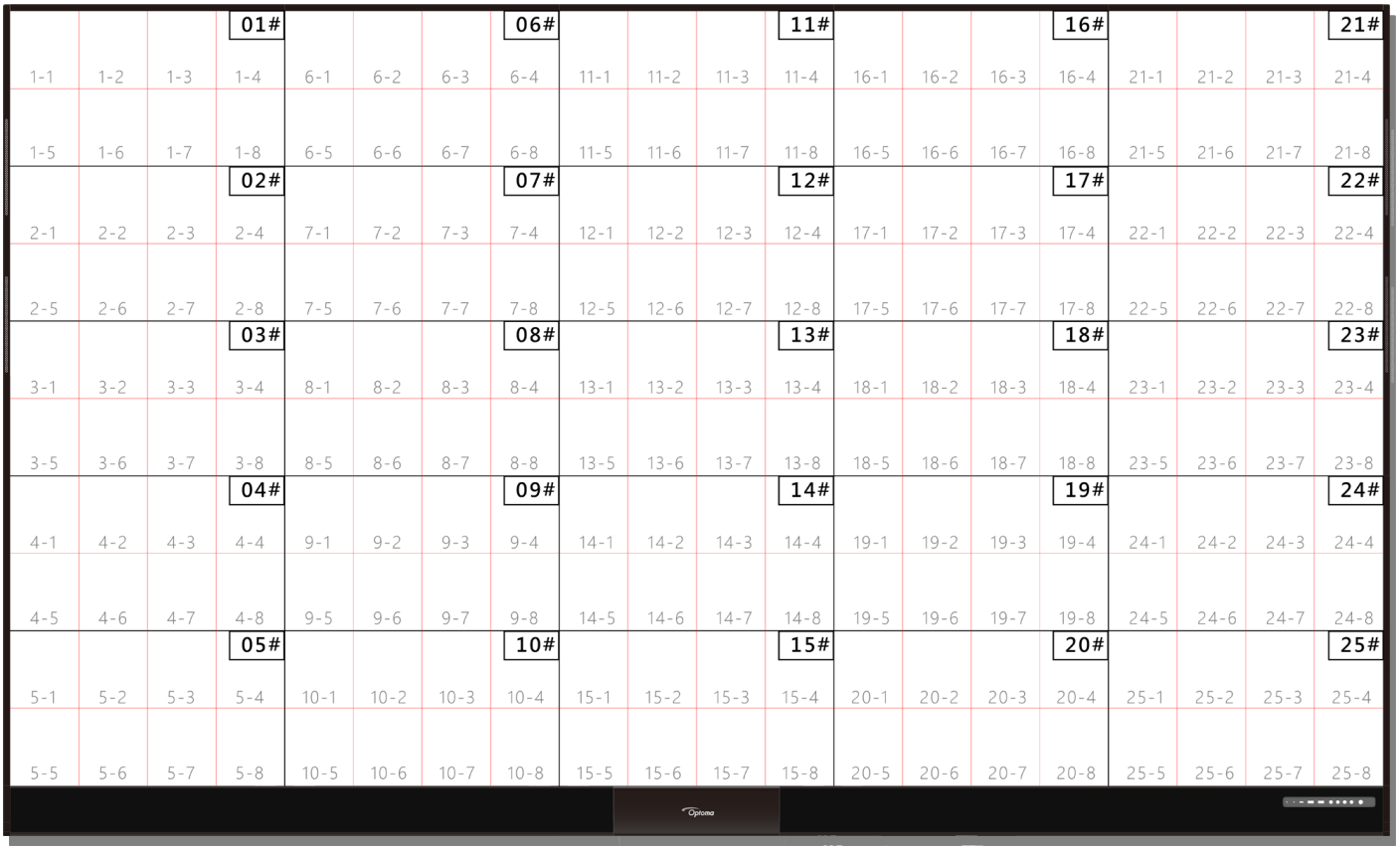


- Rear view of the LED panel.

5) Cabinet and LED panel serial number description, each shipped cabinet has a mark number in the top right corner (inside), this number represents the corresponding position of the cabinet when installed during factory calibration. Each LED panel (back) also has a mark number, such as： 16-5, where 16 represents the installation of this LED panel during factory calibration in cabinet 16, and 5 represents its position in cabinet 16.



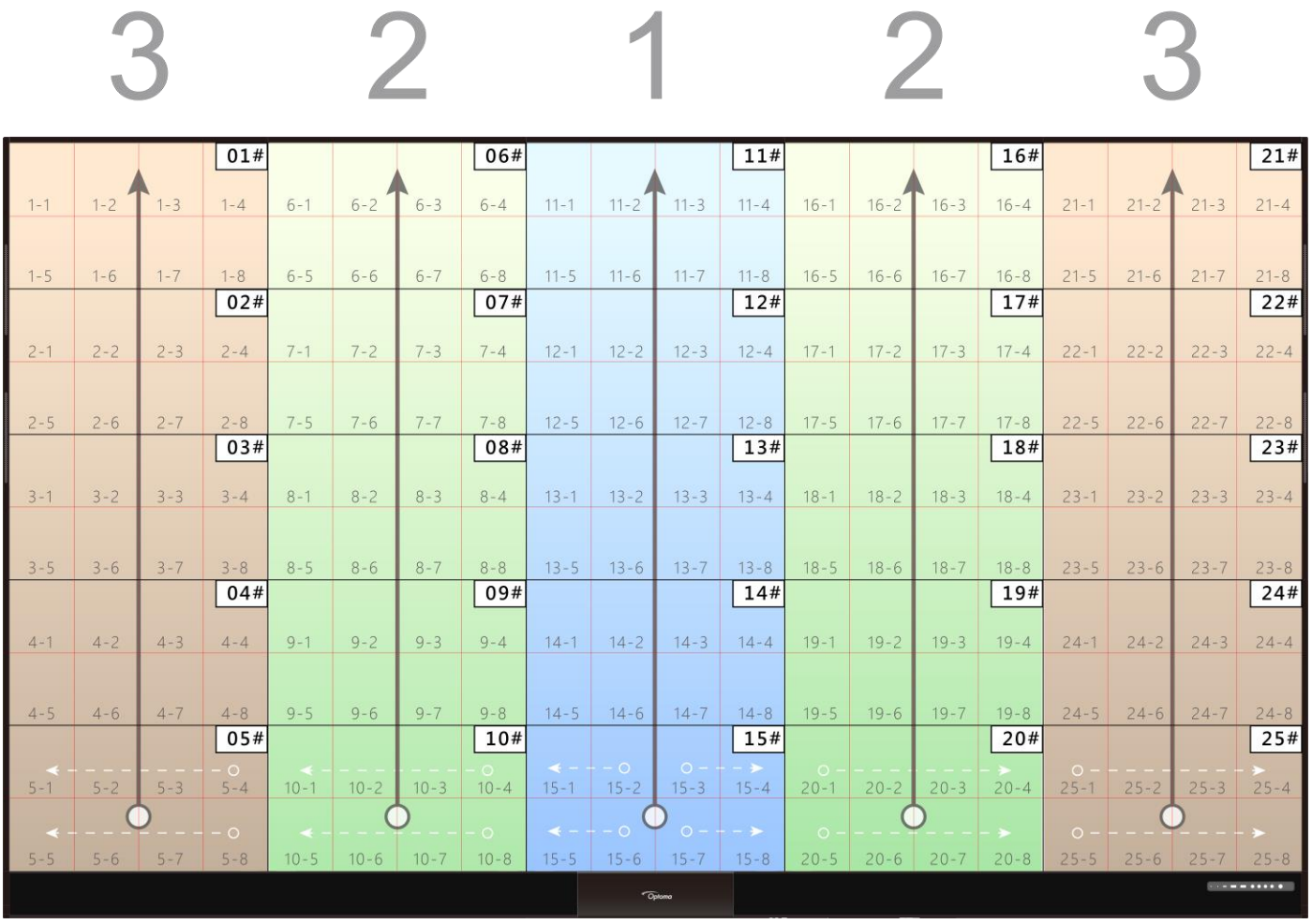
6) The LED panels of the FHDC135 screen have their specific designated installation positions. Construction personnel must check the numbers on the back of the LED panels and install them in the assembly positions indicated in the diagram of the FHDC135 screen.



The installation location map for FHDC135 LED panels.

I. The installation sequence of the LED panels impacts both the ease of installing the FHDC135 LED panels and the flatness of the assembled screen. OPTOMA recommends that construction personnel follow the LED panel installation sequence outlined below and complete the installation of the LED panels in each cabinet area accordingly.

Please refer to the color block numbering in the diagram. Follow the order from 1 to 5 to sequentially install the LED panels in each designated area of the FHDC135 screen. The installation of LED panels in each color-blocked area must also follow a specific order. Please install them continuously from bottom to top along the plumb line indicated by the arrows in the diagram. Additionally, follow the direction indicated by the dashed white arrows and install the panels continuously in sequence.



FHDC135 Installation Directions and Sequence for LED Panels

II. When installing LED panels continuously and adjacently onto the FHDC135 chassis, ensure that the edge of the LED panel being installed gently touches the edge of the adjacent, already-installed panel. Use this contact point as a pivot to magnetically secure and align the LED panel flat against the FHDC135 chassis to complete the installation. During the installation process, avoid creating an angle greater than 5 degrees between the panel and the screen to prevent damage caused by potential collisions between the LED surfaces.

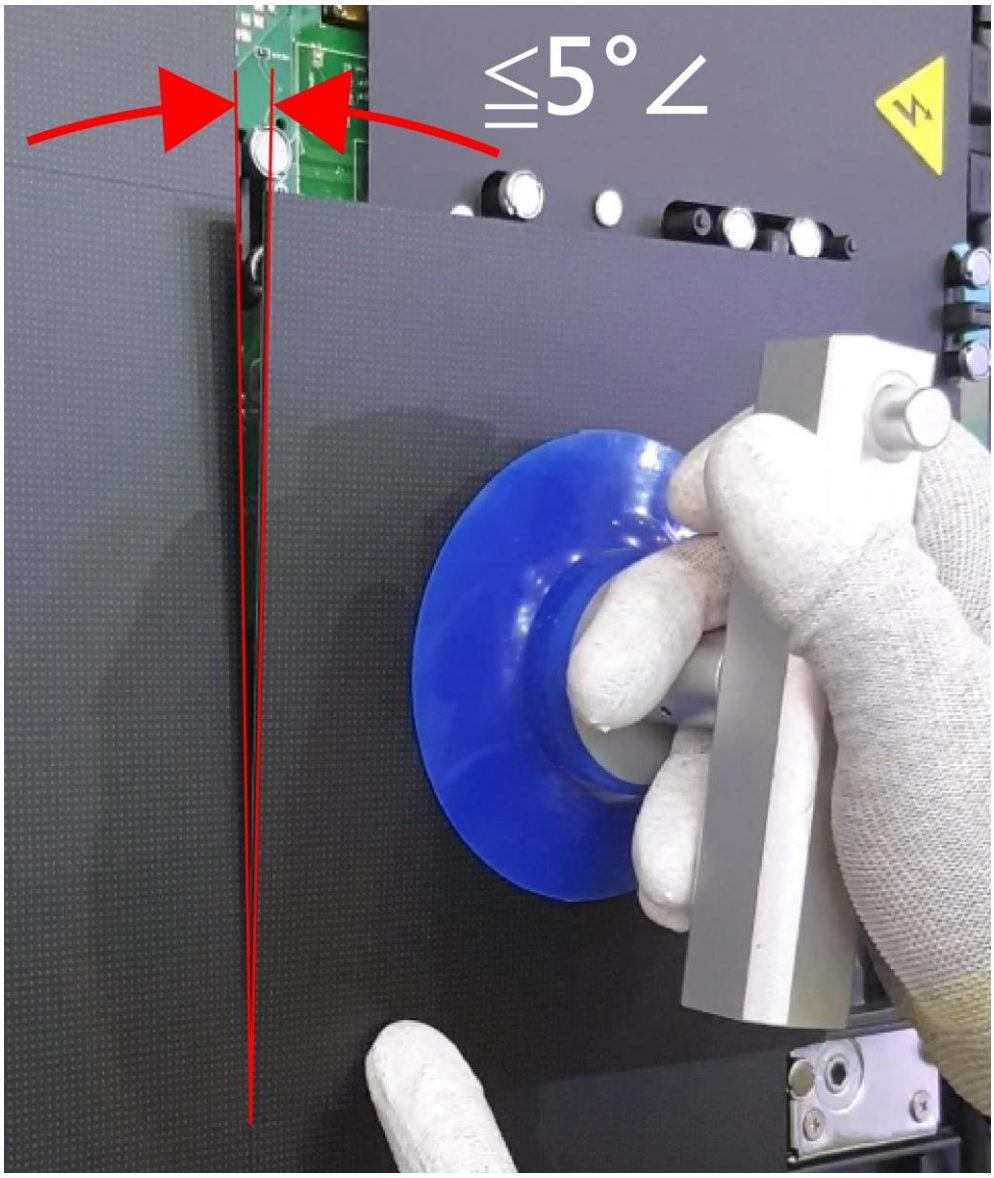
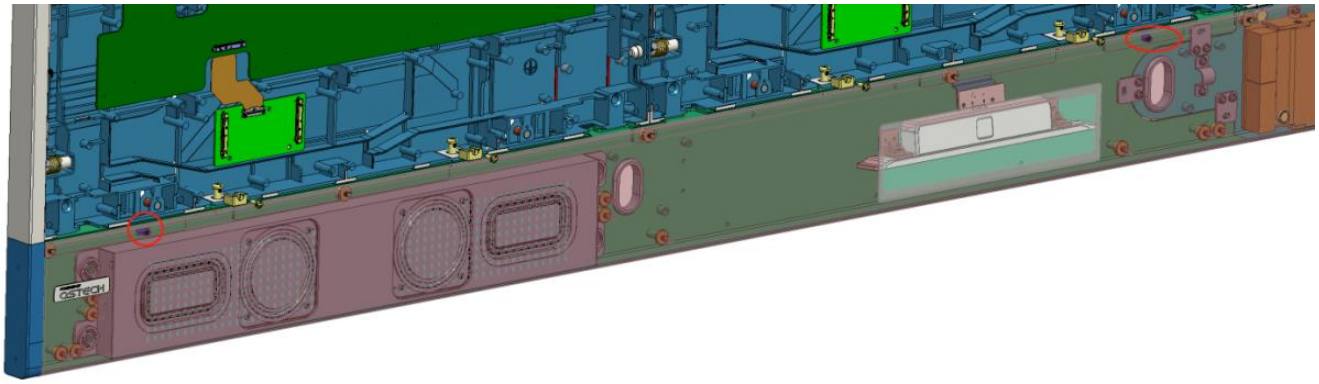
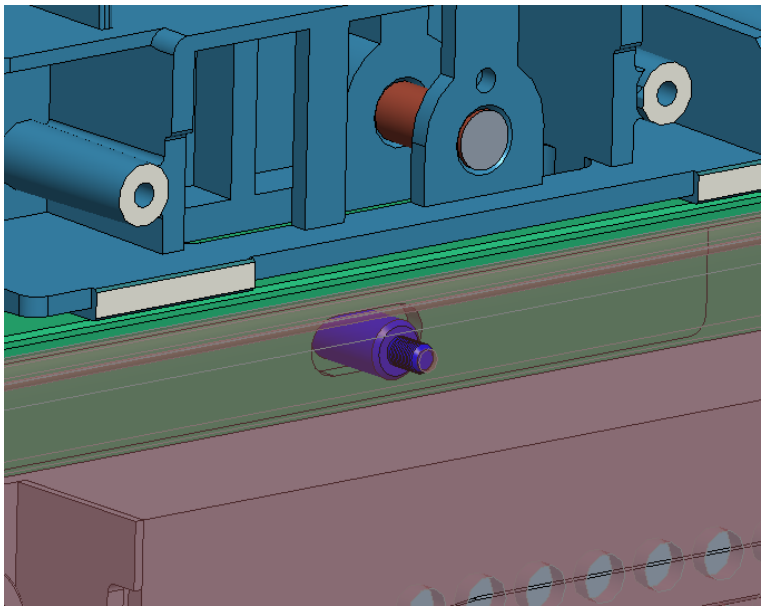


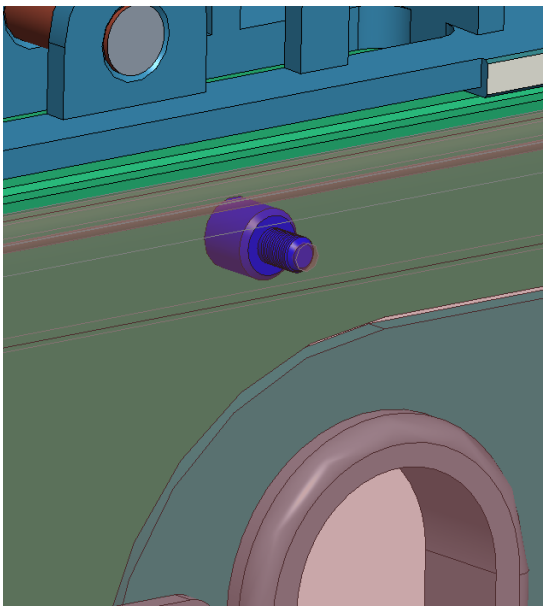
Illustration of the correct operation for installing LED panels.

Step 8： Install the bottom frame cover plate

1) Install the bottom frame cover plate, according to the installation diagram, install the cover plate from right to left in order. The cover plate has locating pins in its original color. After aligning the pins, the cover plate will be fixed to the bottom frame through magnetic attraction, as shown in the figure below：







Appendix 1

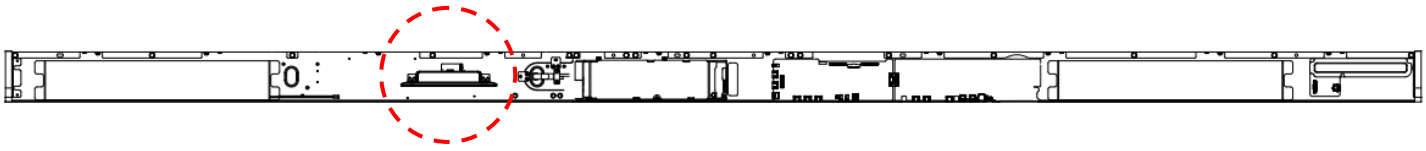
Method for Installing the Wi-Fi Antenna Module

The Wi-Fi Antenna Module is an optional kit for the FHDC135. Below are the installation steps for this component.

Appearance of the Wi-Fi Antenna for FHDC135

Installation Location

The Wi-Fi antenna installation location is on the left side of the PSU inside the FHDC135 system control box, as indicated by the red circle with a dashed line in the image below.

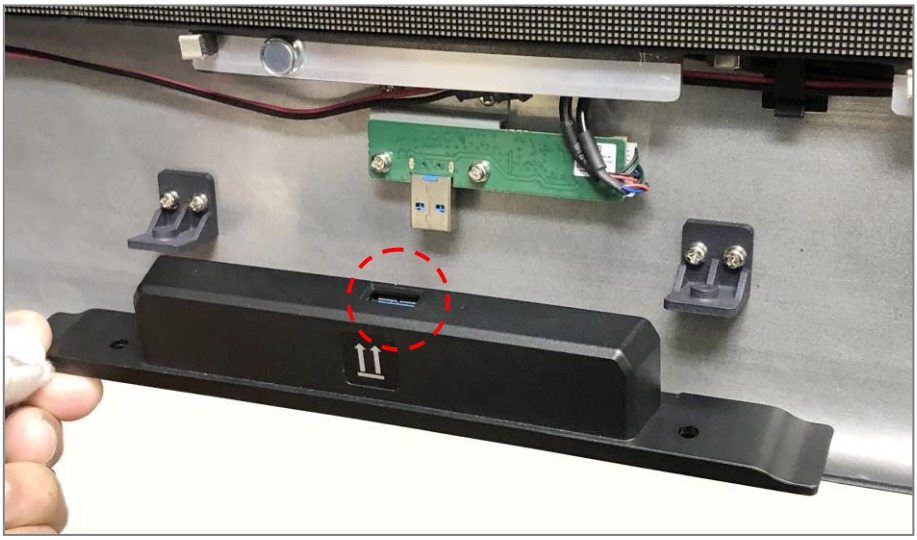


FHDC135 system control box.

Assembly Instructions

Step 1.

Refer to the diagram below. Connect the USB port of the Wi-Fi antenna to the corresponding USB plug inside the system control box, ensuring it is inserted completely.



Step 2.

Secure the Wi-Fi antenna to the system control box using two M3*8mm screws at the screw holes indicated by the red circles in the diagram below.