Nanolumens

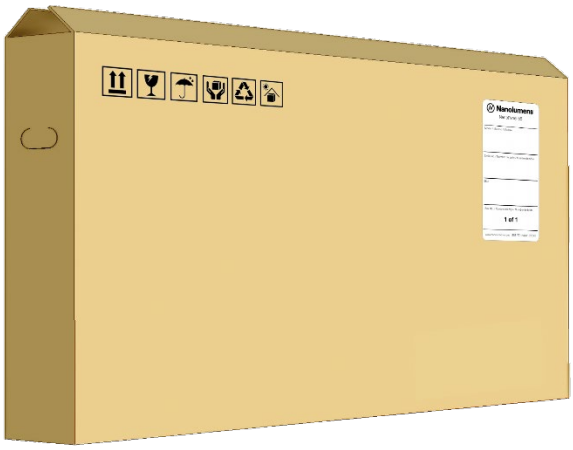
NanoPanel 55 – Full HD, 55” LED Display

Contents

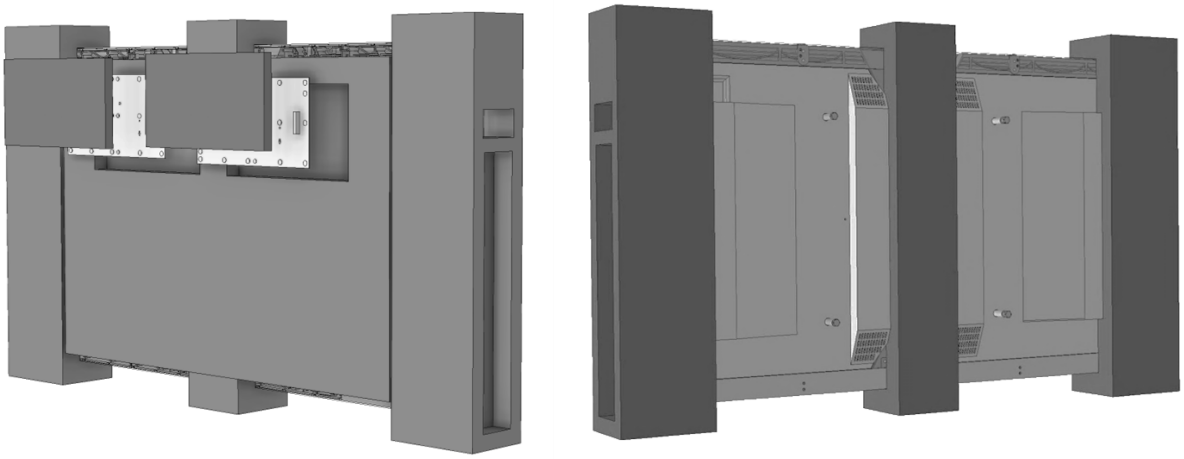
1 CAUTION

- Do not place the device upside down or subject it to impact during transportation or storage.
- Avoid tilting or scratching the device during installation.
- Keep the device away from water and moisture.
- Do not direct the air outlet of an air conditioner toward the display.
- Do not place or operate the display in environments containing volatile, corrosive, or combustible chemicals.
- Do not use the device in areas with humidity above 80% or outdoors during rain.
- Do not clean the display with chemical solutions.
- Always use electrical accessories certified by the device manufacturer.
- Ensure the display and all auxiliary equipment are properly and securely grounded before use.
- Disconnect the power supply and contact a qualified technician if you notice any abnormality, such as unusual odor, smoke, power leakage, or abnormal temperature.
- Input voltage must remain within 100–240 VAC.
- Wear anti-static gloves and wrist straps when installing or servicing the product.
- Ensure unobstructed airflow at the back of the display.
- Power on the display at least twice per week for a minimum of two hours each time under normal conditions.
- Avoid prolonged display of static images or text to prevent significant brightness degradation.
- Installation near coastal areas, saline environments, sulfur gases, or locations with large indoor-outdoor temperature differences may cause operational issues and reduce service life.
- If installation in such environments is unavoidable, consult Nanolumens technical professionals.

2 PACKAGING LIST



Corrugated Box



Inside the Carton

Inventory list:

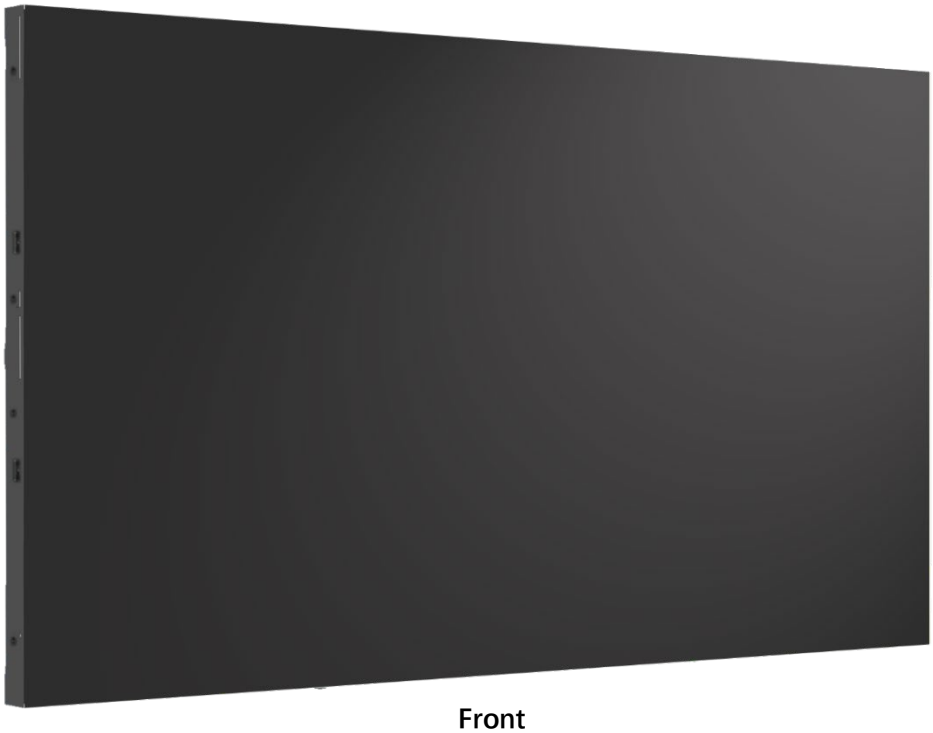
1	55-inch LED Display	1 set
2	Spare Module	1 or 2 pcs
3	Remote Control	1 pcs
4	Power Cable (3 meters)	1 pcs
5	HDMI Cable (3 meters)	1 pcs

3 SPECIFICATION

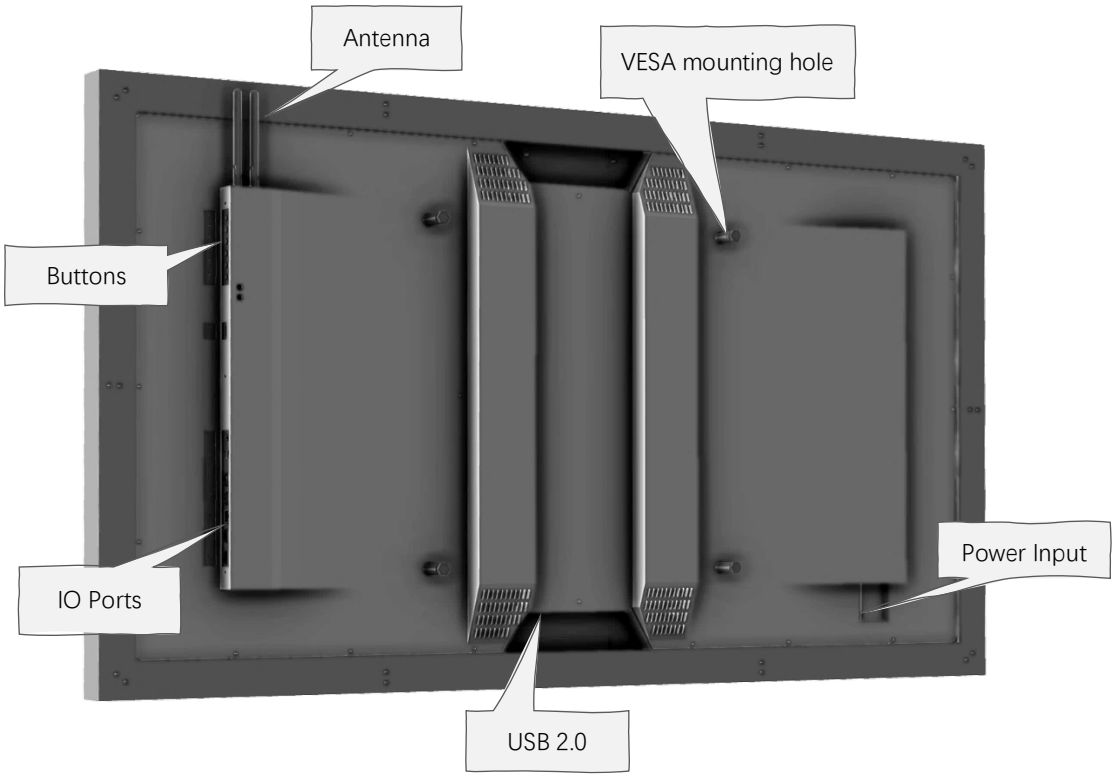
MODEL		0.6-NPan55-001	1.25 - NPan55 - 001
Display	LED Package Type	1R1G1B-COB	1R1G1B-COB
	Pixel Pitch	0.625mm （Virtual）	1.25 mm
	Native Resolution	1920 x 1080	960 x 540
	Brightness	800 nits	800 nits
	Contrast Ratio	10000:1	10000:1
	Viewing Angle (H/V)	160°/160°	160°/160°
	Lifetime (Typ.)	100,000 hrs	100,000 hrs
	Panel Surface	3H	3H
POWER	Power Supply	Internal	Internal
	Rated Voltage	100-240V ~ 50/60Hz	100-240V ~ 50/60Hz
	Power On Mode/Max.	240W	240W
MECHANICAL SPECS	Bezel Width (T/B/L/R)	3/3/3/3 mm	3/3/3/3mm
	Cabinet Color	Black	Black
	Active Dimension (LxH)	1200x675 mm	1200x675 mm
	Monitor Dimension (LxHxD)	1206x681x68 mm	1206x681x68 mm
	Package Dimension (LxHxD)	1315x785x152.5 mm	1315x785x152.5 mm
	Display Weight	20 kg	20 kg
	Package	26 kg	26 kg
	Orientation	Portrait / Landscape	Portrait / Landscape
	VESA Mounting (LxH)	400 x 400 mm	400 x 400 mm
	Installation Method	Wall mounted / Hang / Floor stand	
USER INTERFACE	Language	English, French, Spanish, Chinese, Russian	
	Brightness Control	Yes	
	Volume Control	Yes	
	Power On/Off	Yes	
	OSD Menu	Yes	
IO PORTS	HDMI In	x1 (1.3 Supports 2K, frame rates of 30/50/60Hz)	
	HDMI Out	x1 (Support outputting standard 1080P video source)	
	USB	X3 (USB 2.0 input interface, supporting common USB devices)	
	RJ-45	x1 (LAN)	
	SPDIF	x1(Fiber optic digital audio output)	
	AUDIO	x1(3.5mm standard interface)	
INTERNAL PLAYER	Operating System	Android 11	
	CPU/GPU	Main frequency 1.8G 64-bit quad-core processor/ Mali G52	
	RAM /ROM	2GB LPDDR4 /32GB	
	Wireless	Bluetooth/Wi-Fi / 4G (optional)	
ENVIRONMENT	Operating Temperature	-20℃ ~60℃	
	Storage Temperature	-30℃ ~80℃	
	Humidity	10% ~ 80% RH Non-condensing	
CERTIFICATION	CE, FCC, ETL		
WARRANTY	3 Years Nixel™ to Pixel Warranty		

4 HARDWARE DESCRIPTION

4.1 Product Appearance

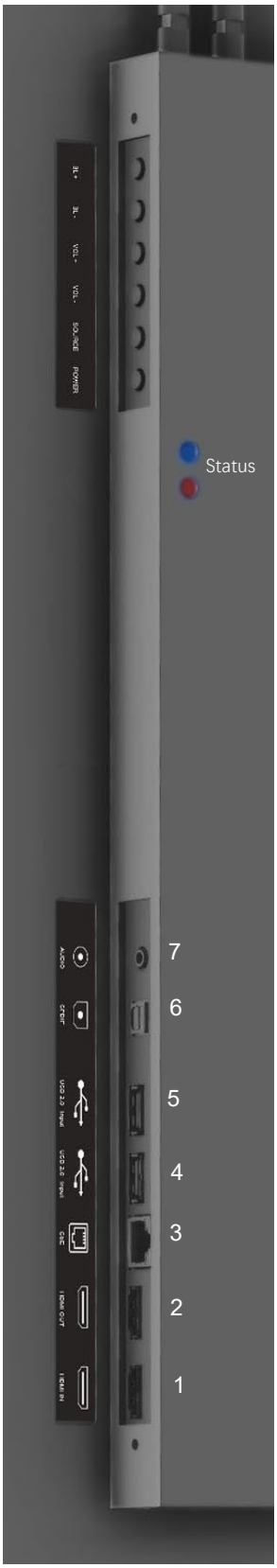


Front



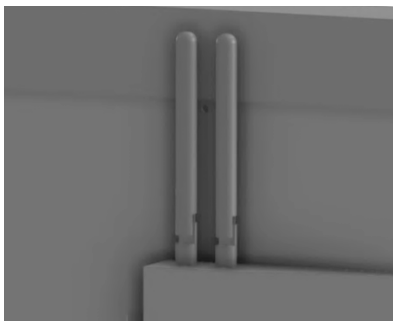
Rear

4.2 Buttons and IO Ports



Name	Description
BL+	Increase Brightness Level
BL-	Decrease Brightness Level
VOL+	Increase Volume
VOL-	Decrease Volume
SOURCE	Input Source Switching
POWER	Standby Mode (Low Power)
Status LED	Blue - Power On
	Red - Standby Mode

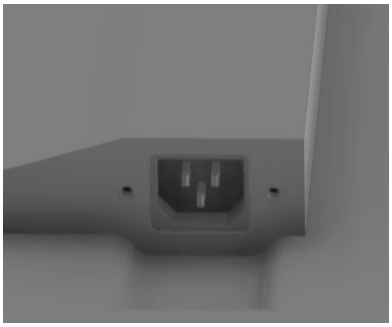
No	Interface	Description
1	HDMI IN 1.3 (Type A)	• Maximum resolution 2048x1152@60Hz . • Minimum resolution 800x600@60Hz . • Support custom resolution. Width range: 800~3840 (recommended) Height range: 600~3840 (recommended) • Supports frame rates of 30/50/60Hz. • Cannot support interlaced signal input. • Supports HDCP1.4 and is backward compatible.
2	HDMI OUT	Support outputting standard 1080P video source
3	Gigabit Ethernet port	Connect to external networks or connect to NovaLCT upper computer software.
4/5	USB 2.0	USB 2.0 input interface, supporting common USB devices such as keyboards, USB drives, etc. • Supported file types for images: *. jpg, *.bmp, *.png; • Video supported file types: *avi, *.mpg, *.vob, *.mov, *.mkv, *.rmvb, *.mp4, *ts, *.flv; • The file system supports FAT32 and NTFS, but does not support Ex FAT and FAT16 • Support RS232
6	SPDIF	Fiber optic digital audio output
7	AUDIO	3.5mm external/internal audio interface. Only supports connecting three-stage headphone stands, used for connecting audio equipment.



Antenna:

- WiFi-STA (1T1R)
- WiFi-AP 2T2R
- Bluetooth (Built-in)

USB2.0: Support RS232 serial command control, connect to input device.



Power Input: AC100-240V

4.3 Remote Control

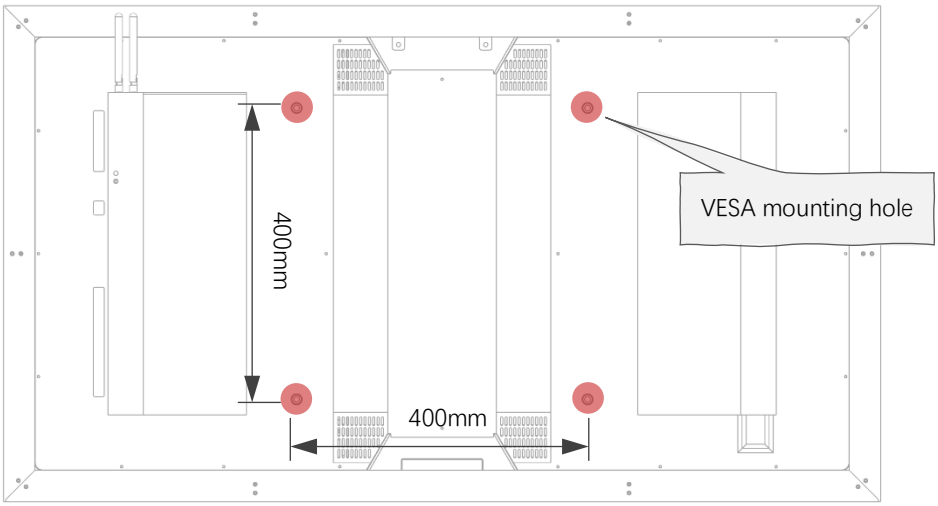
Bluetooth Pairing Method

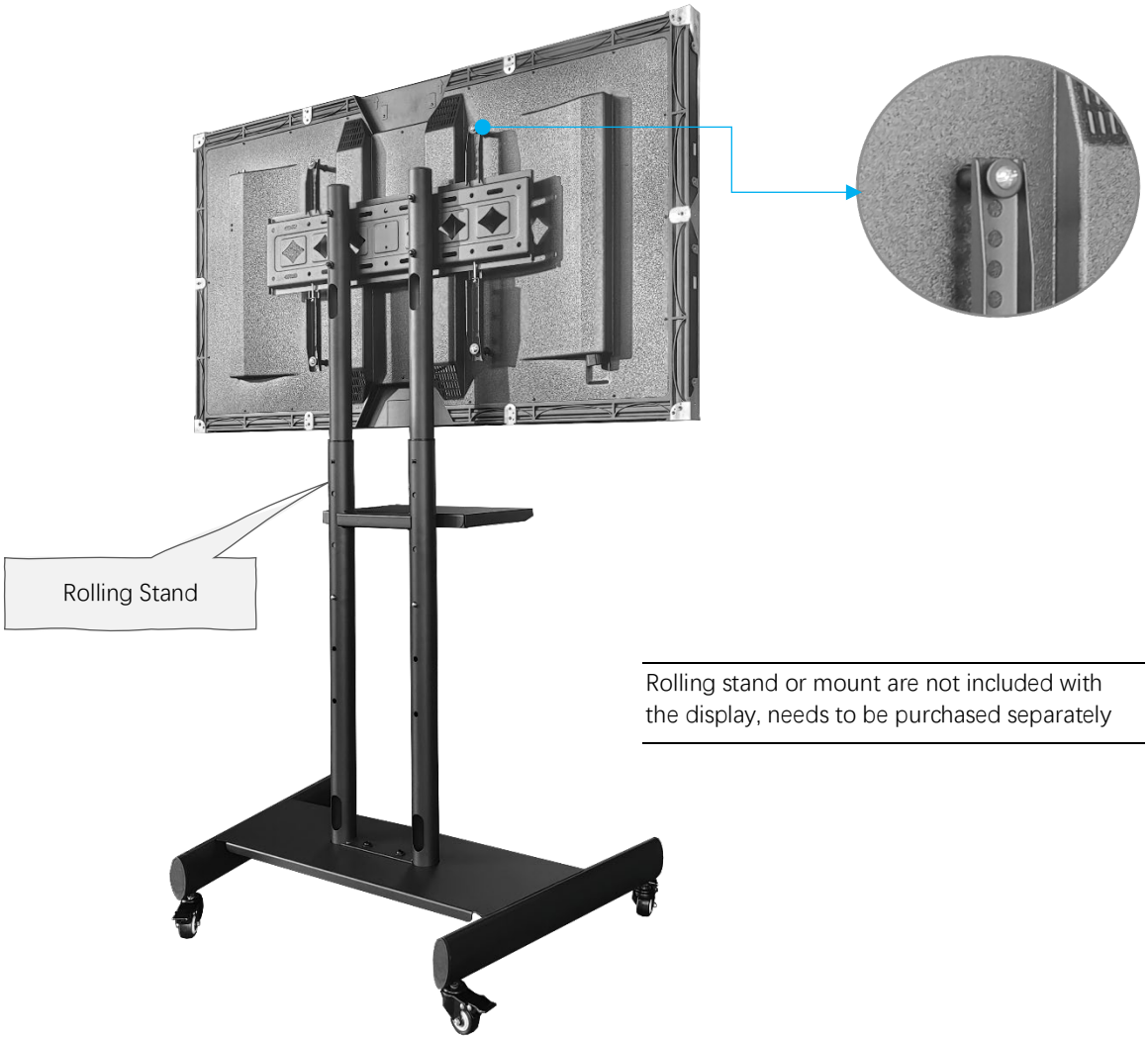
Hold down the menu and Home buttons on the remote simultaneously until the **Connecting to the remote** window appears at the bottom of the screen.

If Bluetooth pairing does not succeed after an extended period, verify that the Bluetooth antenna is properly connected.

5 INSTALLATION ILLUSTRATION

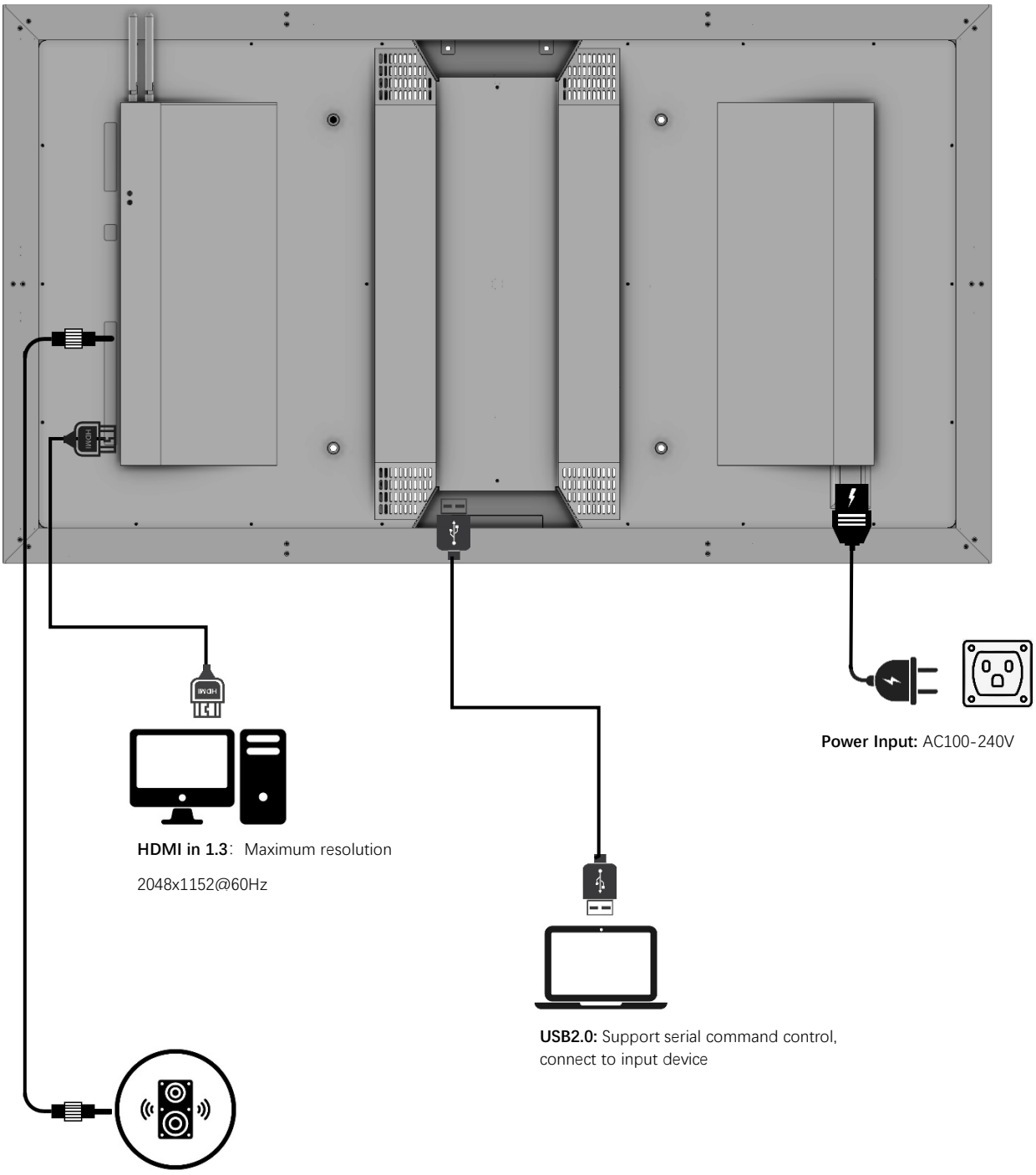
5.1 VESA mounting





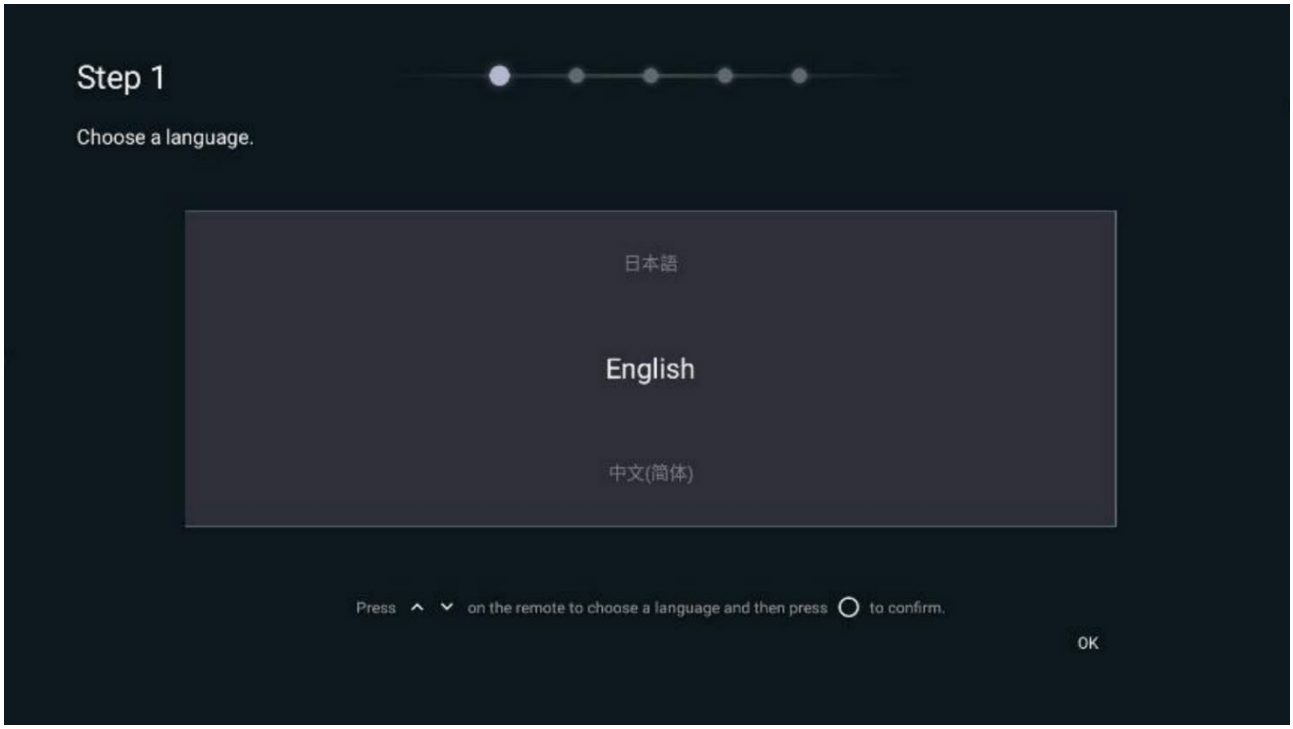
Rolling stand or mount are not included with the display, needs to be purchased separately

5.2 Cable Connection



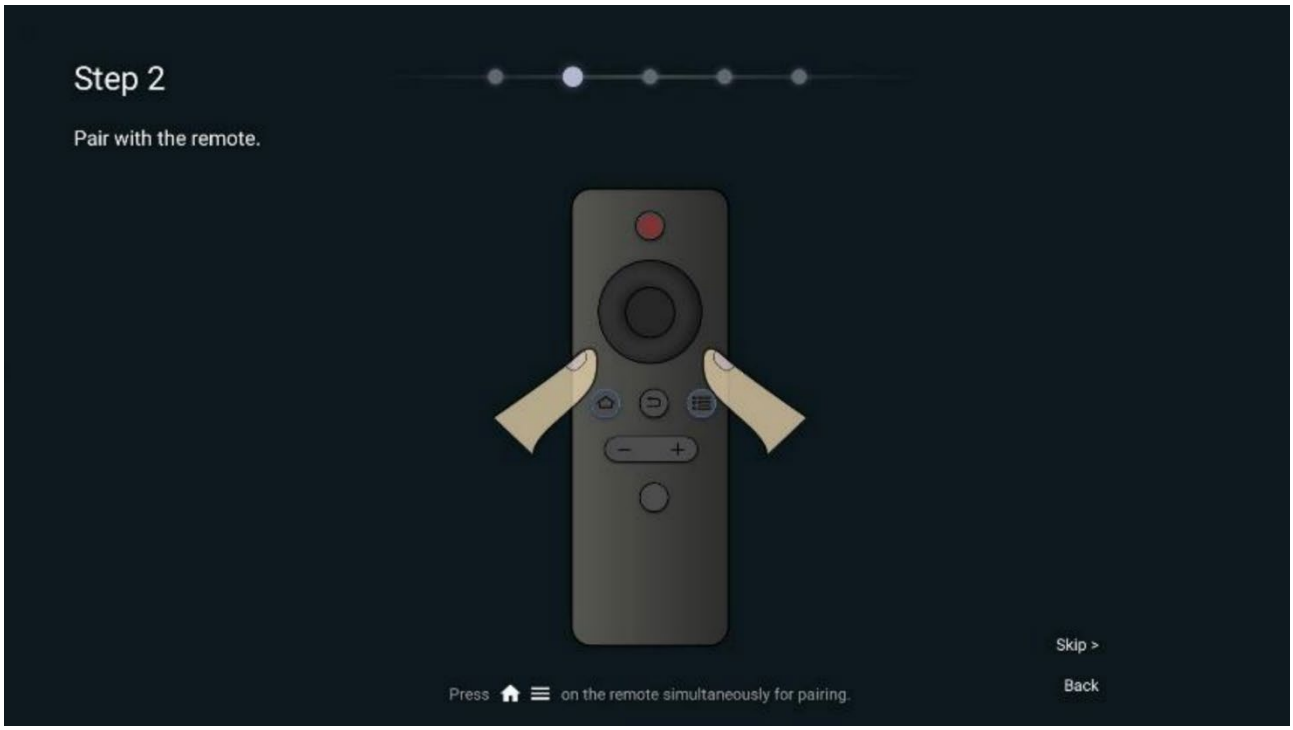
6 INITIALI SETUP

6.1 System Language



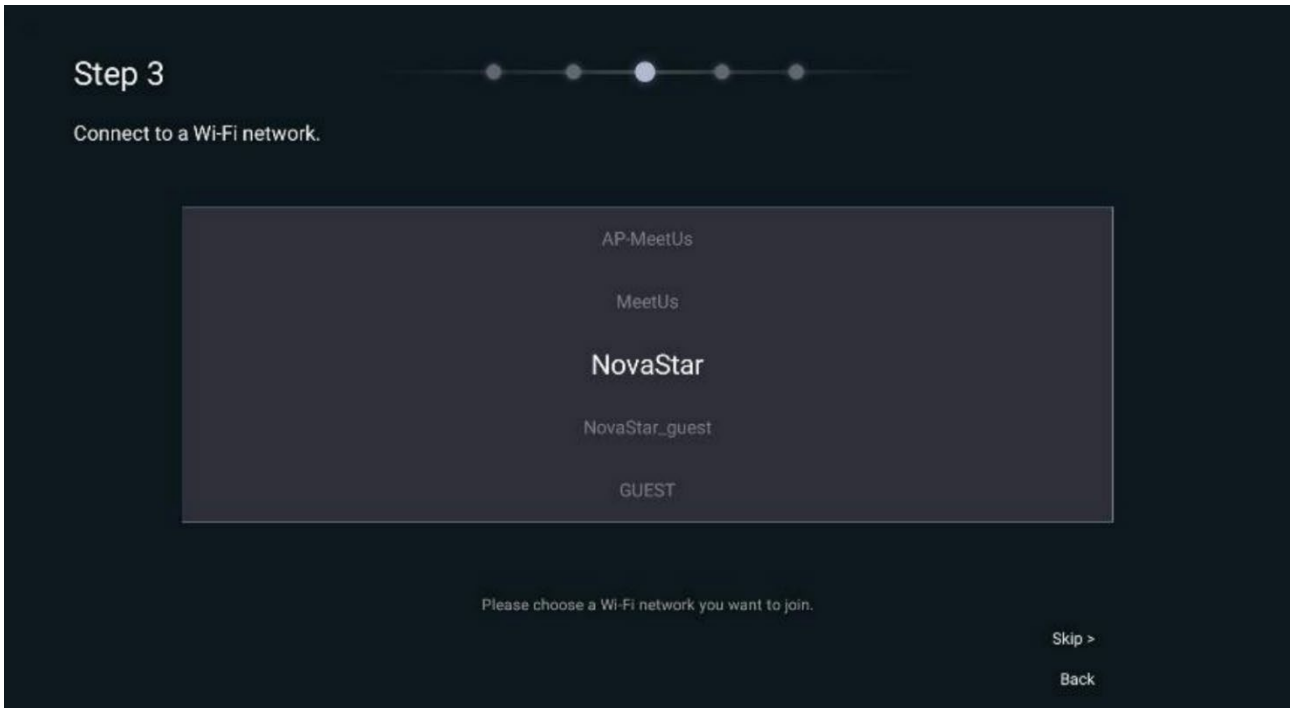
6.2 Remote Pairing

Press and hold the Menu and Home buttons on the remote simultaneously until the “Connecting to the remote” window appears at the bottom of the screen.



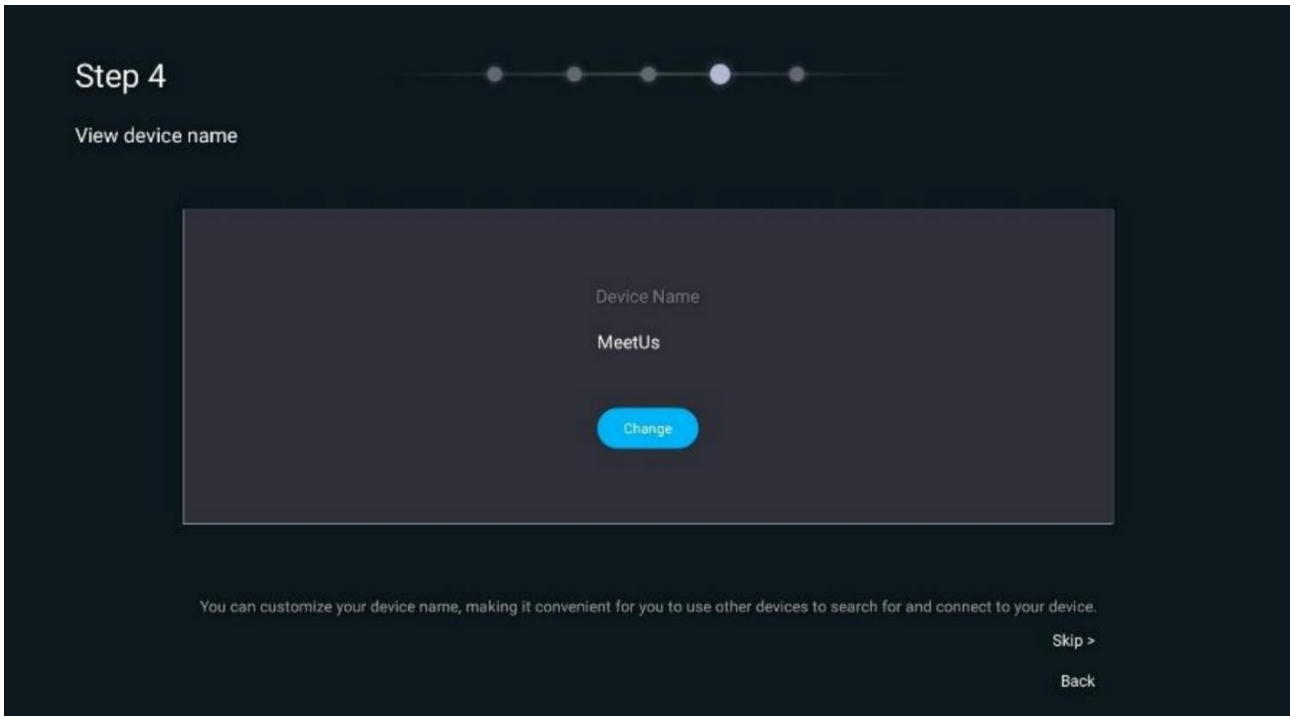
6.3 Wi-Fi Connection

Select a Wi-Fi network and enter the corresponding password to connect the system.



6.4 Customize Device Name

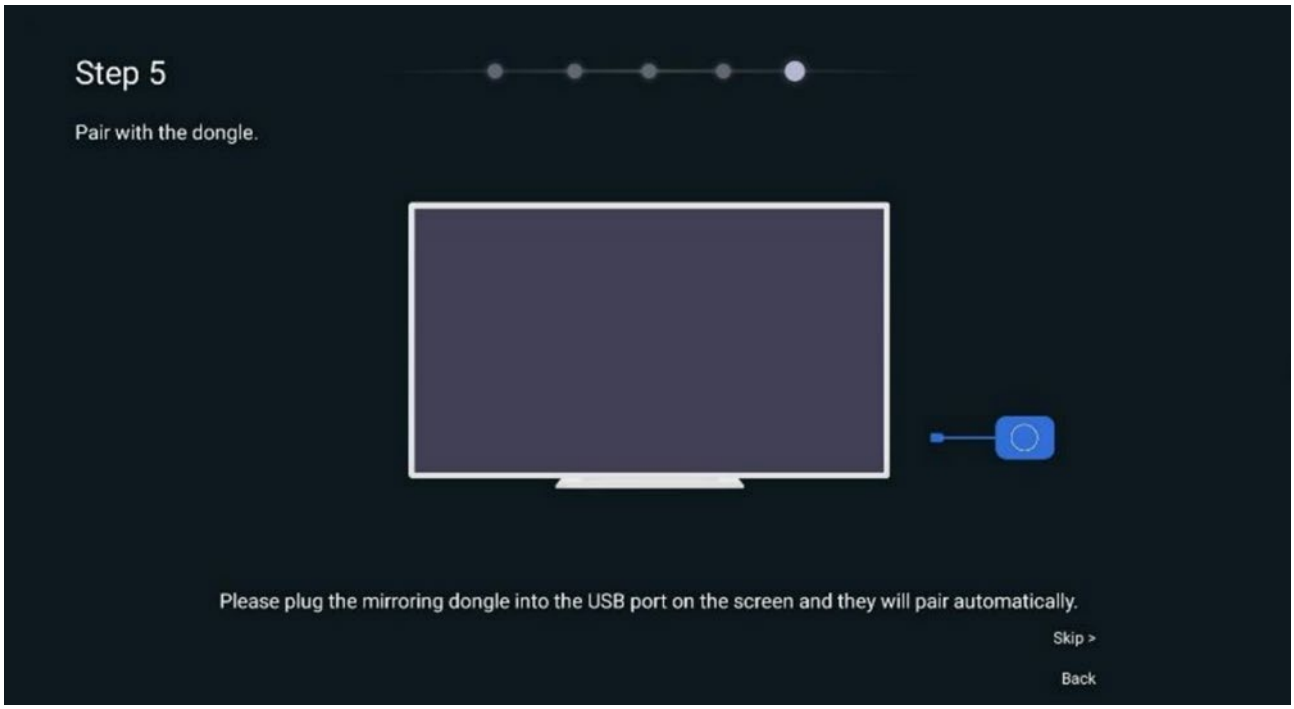
Customize the device name to make it easier to identify and locate from other displays.



6.5 Pairing With the Dongle (Optional)

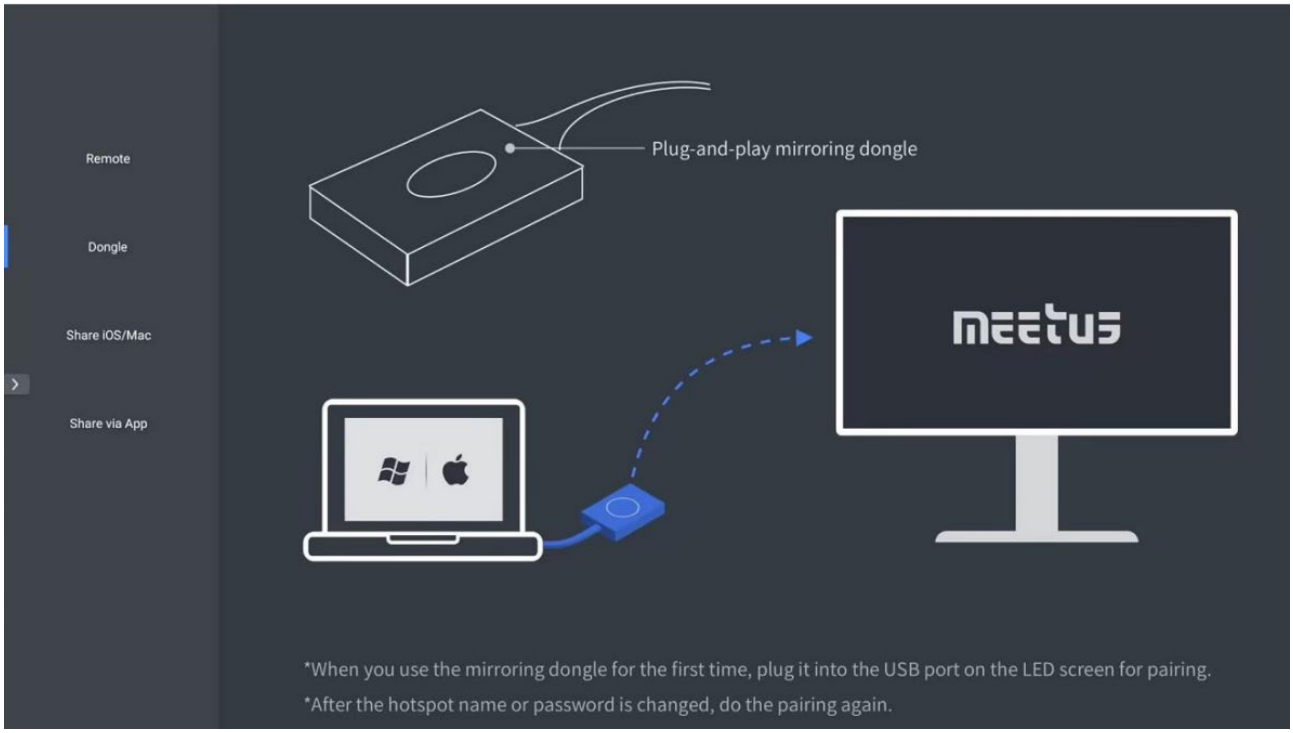
If you are not using the screen mirroring dongle, please skip this step

To pair the system with the screen mirroring dongle, insert the dongle into the USB port on the LED screen. The pairing process will be completed automatically.



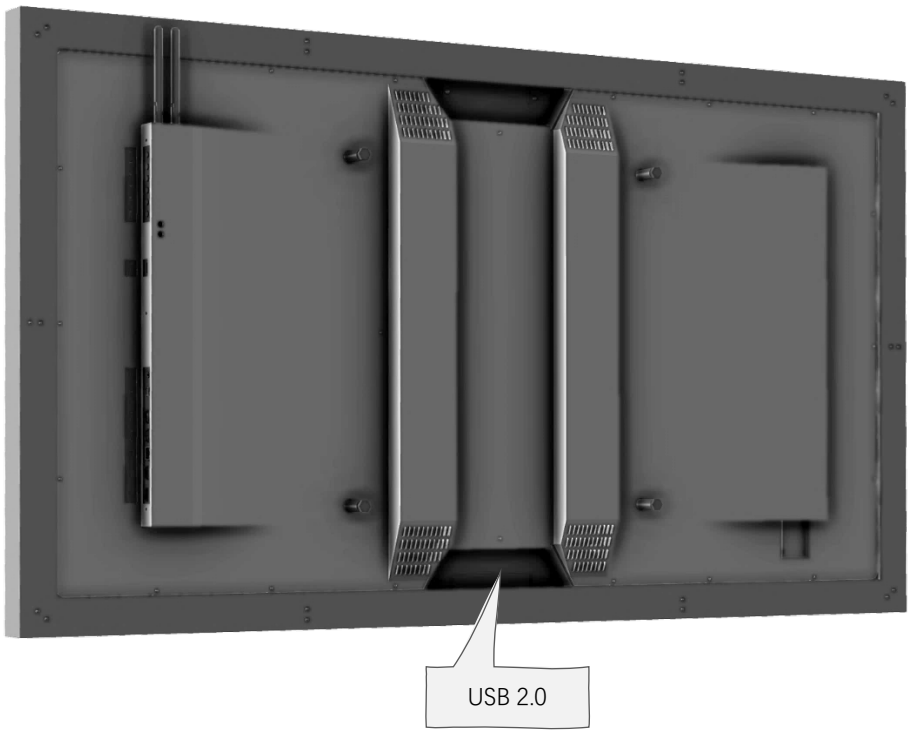
6.6 Beginner's Guide

The initialization settings are done. You can see the Beginner's Guide or start using the system directly. Select Settings to enter the menu screen. In the menu, select System > Beginner's Guide and view the guide.



6.7 RS232 Setup (Optional)

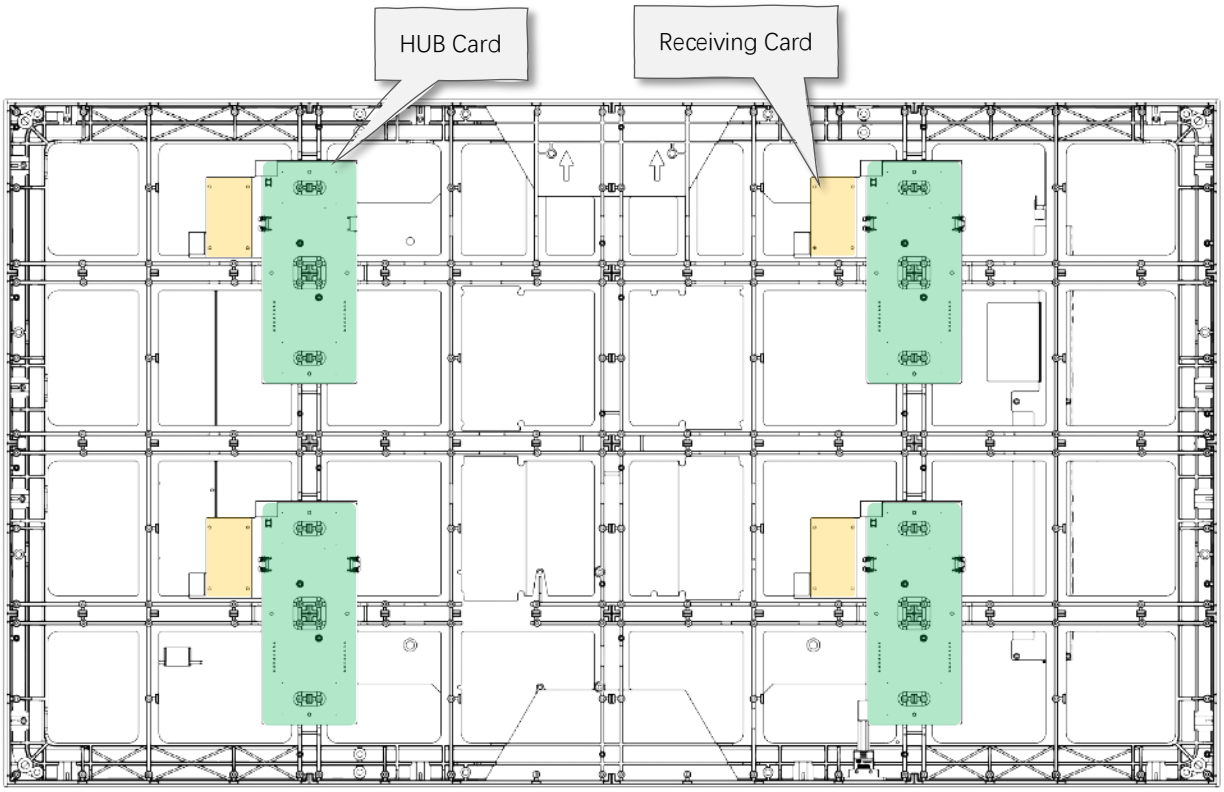
The rear USB 2.0 port supports RS-232 communication. For detailed serial command information, please refer to the TU Series Control Protocol Manual provided by Novastar.



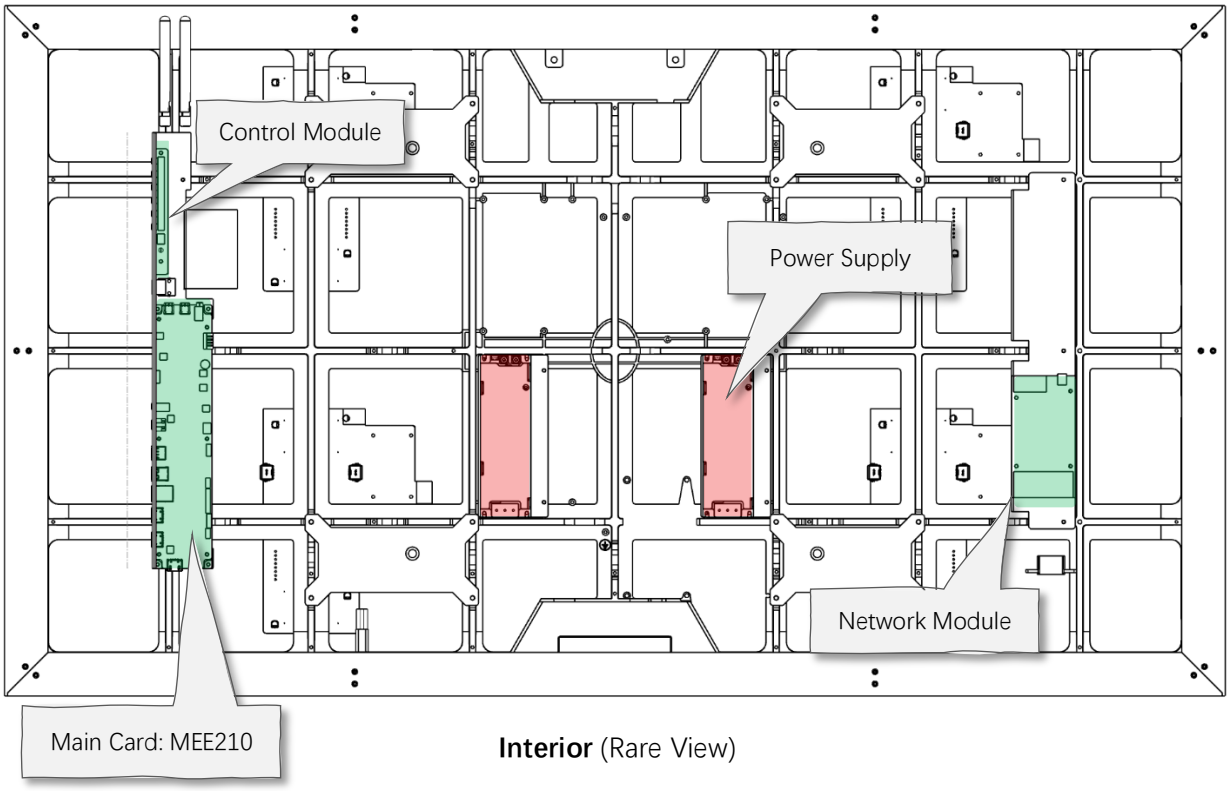
7 PART REPLACEMENT

7.1 Assembly Layout

MODULE	MODULE	MODULE	MODULE
MODULE	MODULE	MODULE	MODULE
MODULE	MODULE	MODULE	MODULE
MODULE	MODULE	MODULE	MODULE



Interior (Front View)



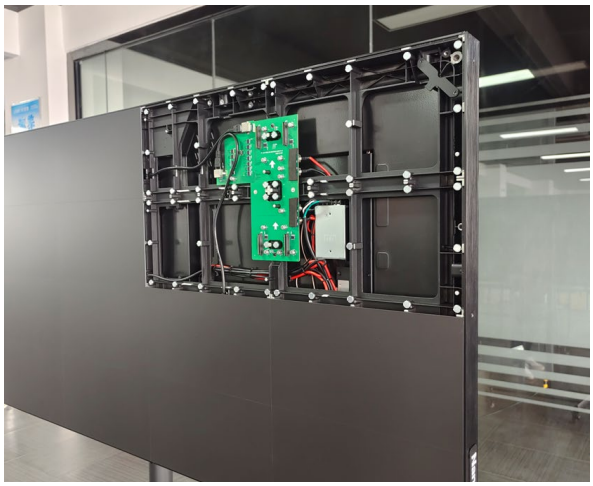
Interior (Rare View)

7.2 LED Module Replacement

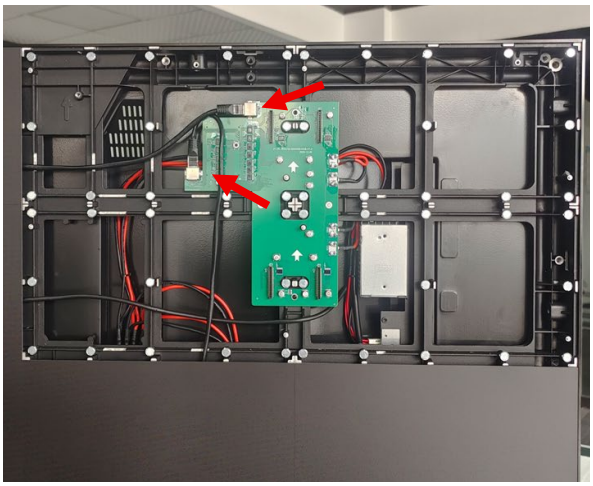
Use a suction cup to hold the LED module that needs to be removed.

Grip the suction cup tightly and pull it away from the display to remove the module.

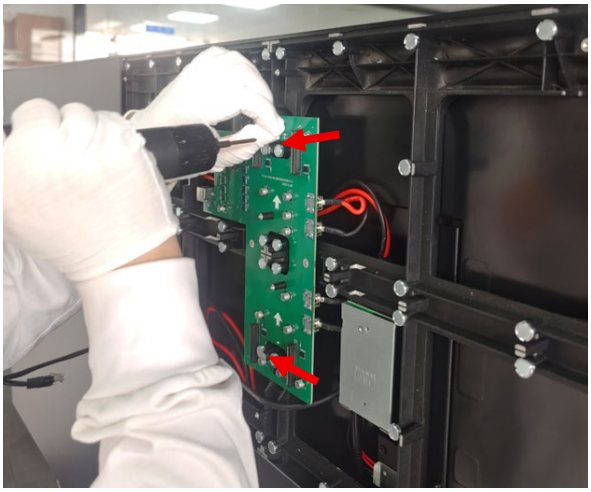
7.3 Hub & Receiving Card Replacement



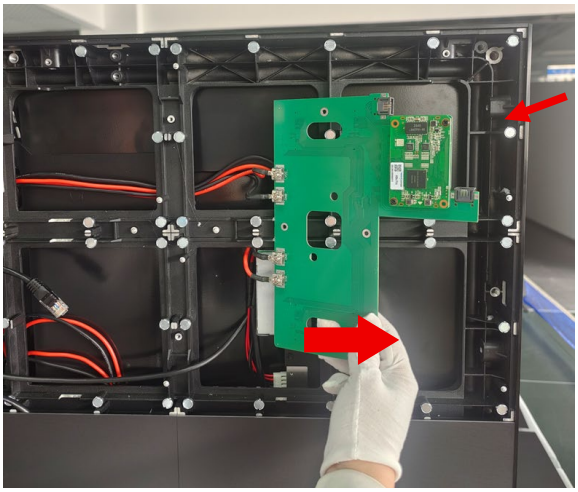
Remove all the modules on the hub card according to the steps in 7.2



Remove the two network cables from the HUB board



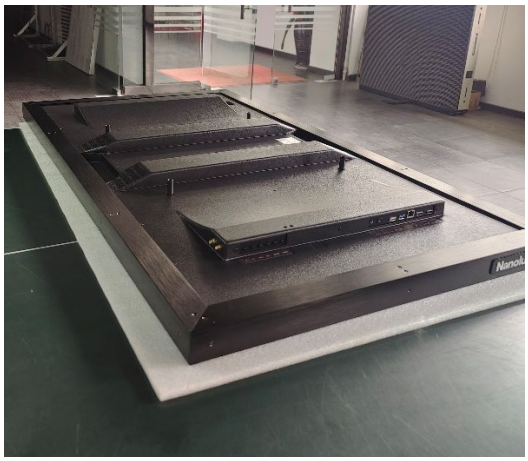
Remove the 2 screws that secure the HUB card



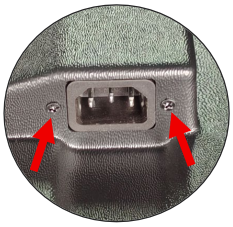
Flip the HUB card to access the receiving card

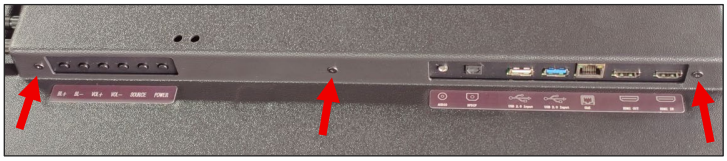
Remove the screws that secure the cable, and the HUB card can be removed

7.4 Power Supply & Sending Card Replacement



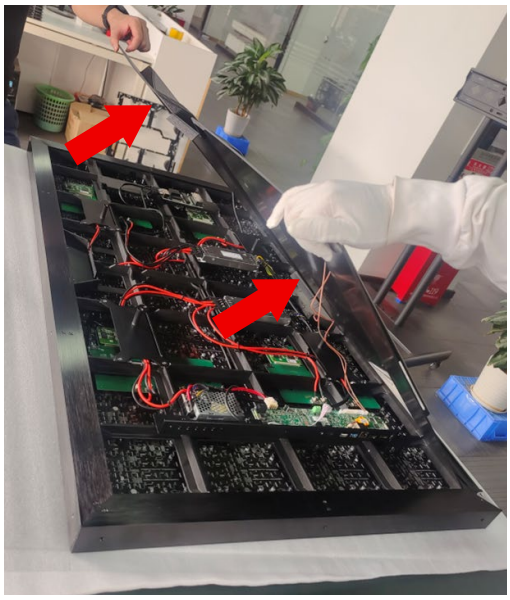
- Place the device on the workbench with the back facing upward. Place a soft cushioning material underneath to protect the LED module.
- Remove all screws from the back cover. Pay special attention to the screws located in the areas indicated below.





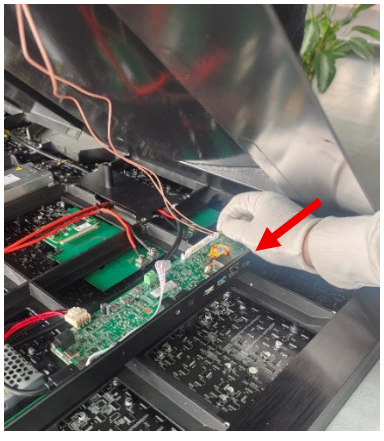
Remove the antenna

Remove the décor (rear view)

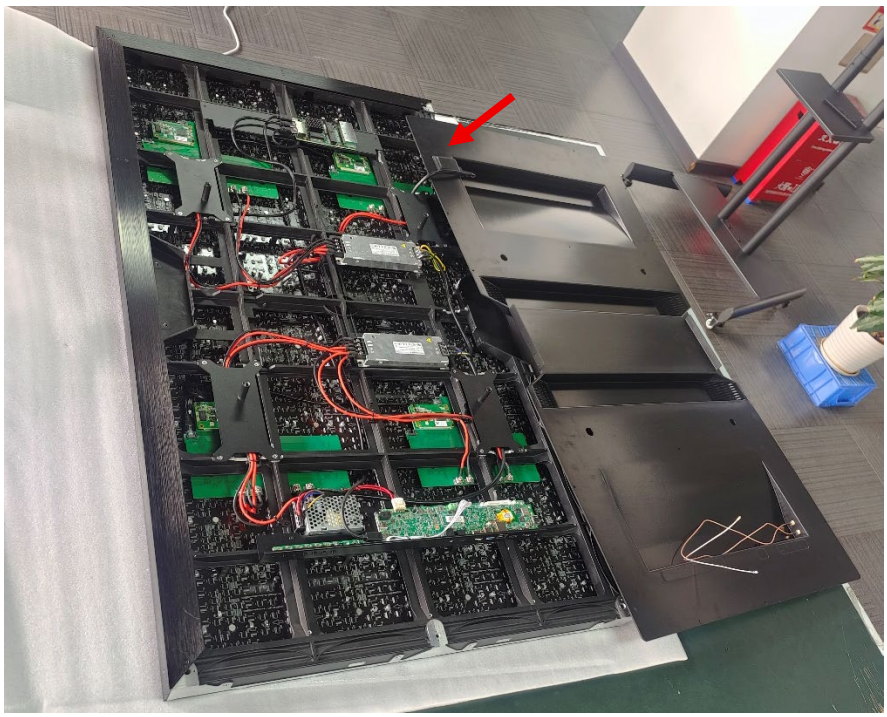


Pull the top side of the cover plate away from the display

★ When removing the cover, please be careful with the USB port

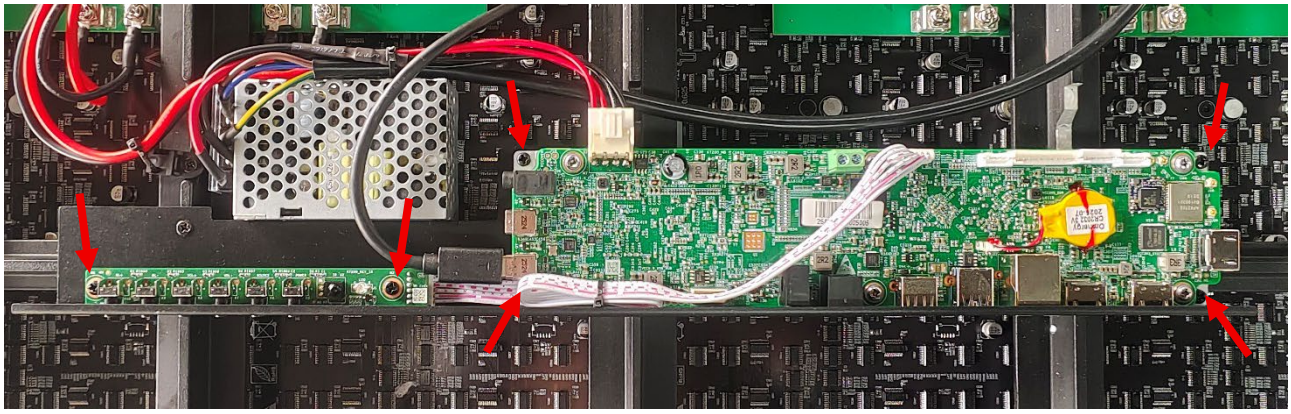


★ While removing the cover, please carefully pull out the antenna connector



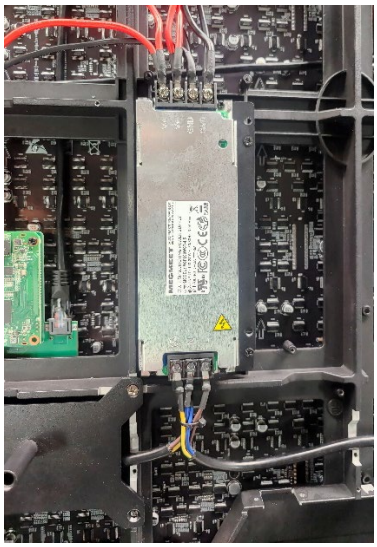
After completing the previous steps, flip the cover plate backward and place it flat on the workbench.

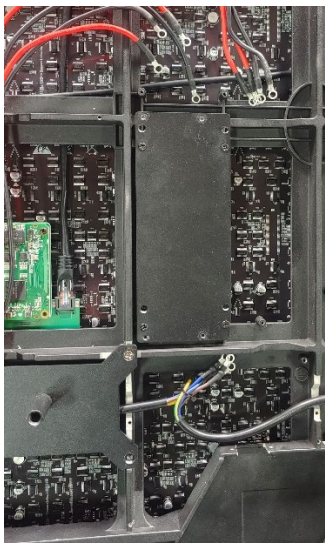
★ Please be careful with AC cable at the arrow position



Control Module

MEE210 4G Sending card





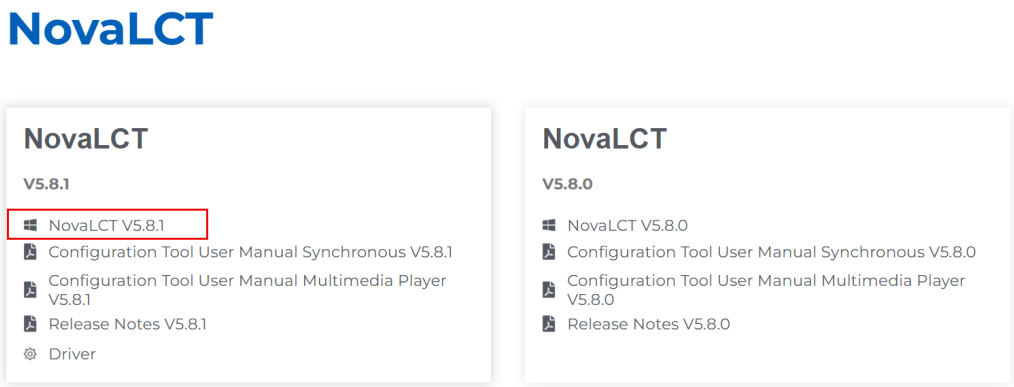
SMPS Power Supply

Network Module

8 UPPER COMPUTER SOFTWARE

8.1 Software Installation

The latest NovaLCT software can be downloaded from https://www.novastar.tech. Navigate to **DOWNLOADS > Software**, then locate the **NovaLCT** section and download the V5.8.1 software installation package.



Unzip the installation package, run the .exe file, and follow the setup wizard to complete the installation. If a firewall prompt appears, choose Allow or Run as administrator to proceed.

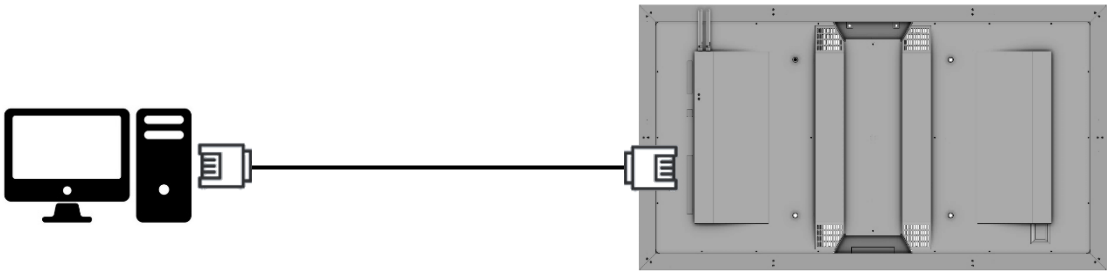
If the PC does not have the required serial port driver installed, or if the installed version is outdated, the NovaLCT installation program will automatically install or update the driver.

After successful installation, a 

shortcut will appear on the desktop,  and  icons will appear on the taskbar.

8.2 Device Connection

Connect computer with NovaLCT installed to the display using RJ45 Ethernet cable



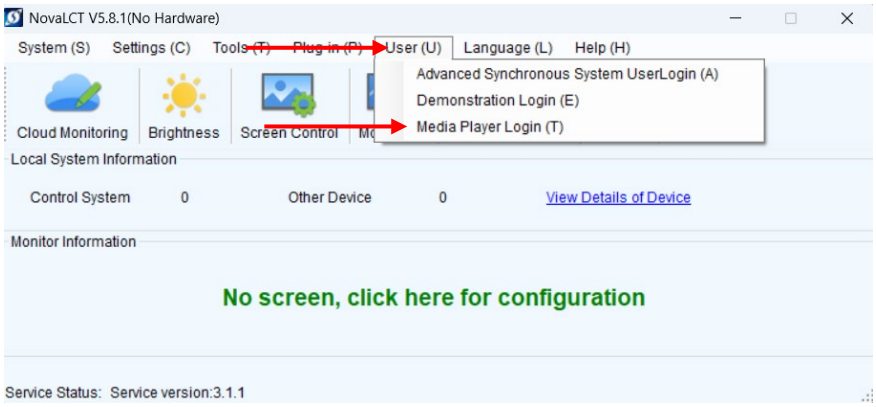
Adjust the IPV4 address of the PC to 192.168.0.88

(Note: Make sure the computer and the display are on the same network)

8.3 NovaLCT Login

NovaLCT Version: v5.8.1

Operations: Choose **User > Media Player Login(T)**.

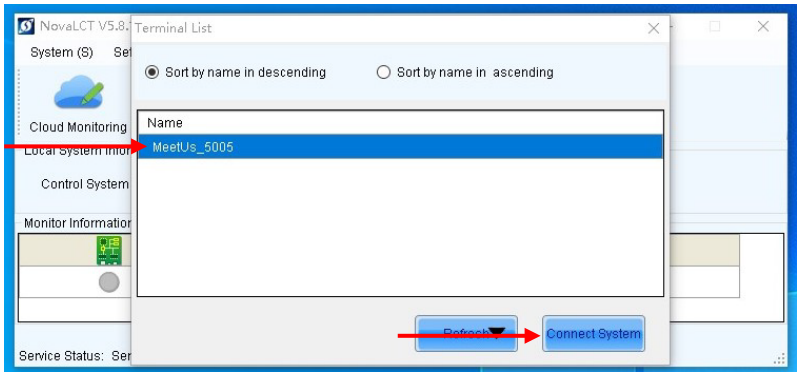


Other Operations:

- To log out, choose **User** > **Logout**.
- To change the login password, choose **User** > **Change Password**.

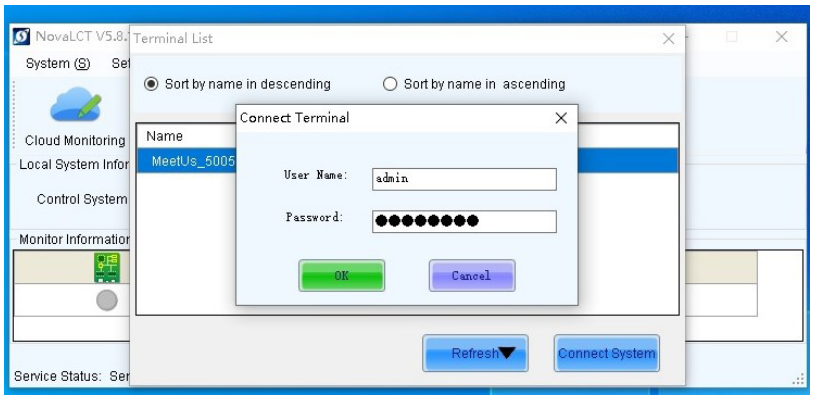
Select the display.

If the display does not appear, click **Refresh**. If it still does not appear, check the network cable connection and verify the PC's network settings.



Connect System.

Enter the user name: '**admin**' and the password: '**SN2008@+**'.

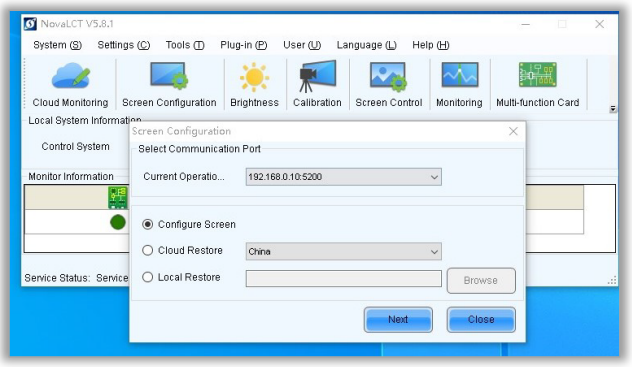


8.4 Screen Configuration

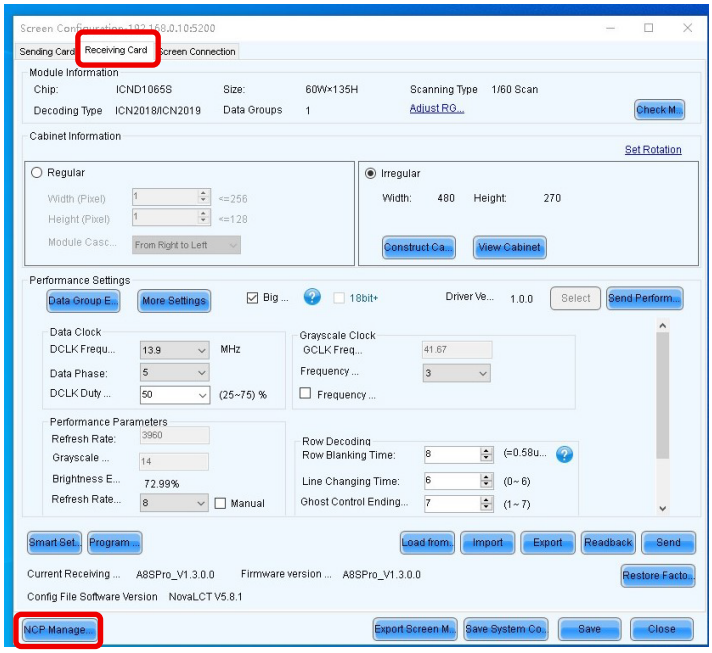
Click 

or choose **Settings > Screen Configuration** from the task bar

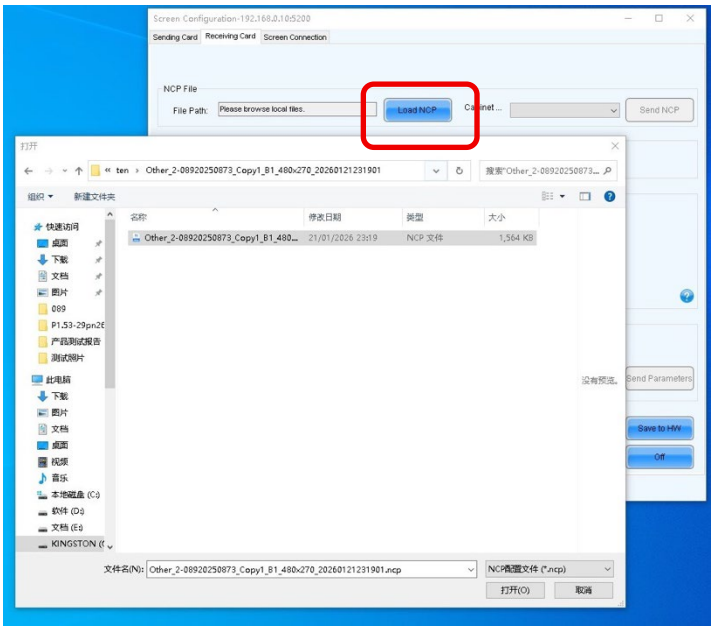
Click on **'Next'** to enter the configuration page.



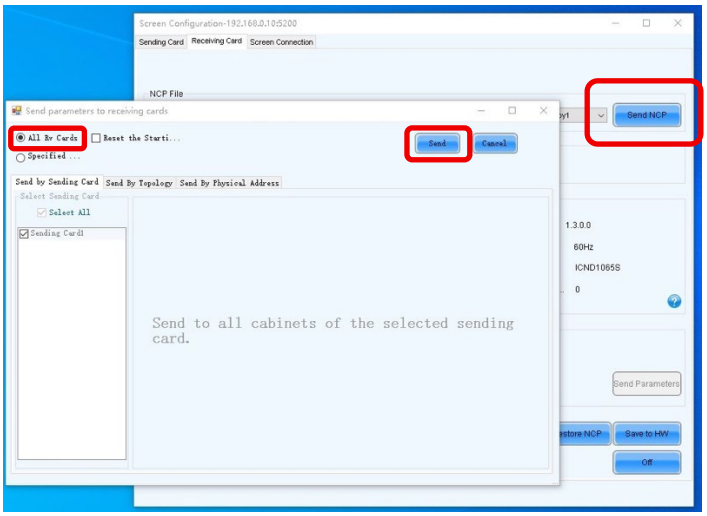
Select the **'Receiving Card'** tab.
Then click **'NCP Manage...'**



Select **'Load NCP'**, Load the NCP file.

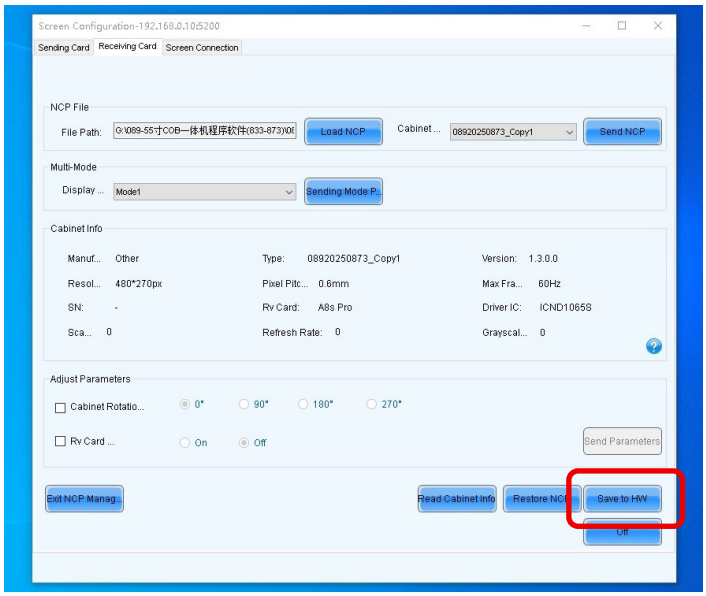


Click **'Send NCP' >** Select **'All Rv Cards' >** Click **'Send'**.



Click **'Save to HW'**

NOTE: This step is extremely important. After the screen power cycle, unsaved configuration file will be erased!



9 NANOPANEL 55 FREQUENTLY ASKED QUESTIONS

1) **What is a NanoPanel 55? –** This product is designed to be a direct replacement for standard format 55-inch class LCD/OLED flat panel displays as either a stand-alone solution or grouped together in a tiled video wall array.

   This solution provides all the benefits of dvLED technology but in an LCD-type format.
   - Long life 100,000-hour 24x7 use (to half-life) = 3x life of LCD
   - 60% less power ‣ Uniform white balance and color. No shift during its life.
   - High brightness (800 nits)
   - In-field serviceable
   - Zero image burn in
   - Removable trim kit
   - Indexed cabinets to help with display alignment in video wall mode
   - Protective finish with dust prevention

2) **What are the General Specifications?**
   - 55-inch class (54") diagonal single cabinet display
   - 0.6mm Pixel Pitch, Virtual Chip-on-Board (vCOB) LED
   - Full HD 1920 x 1080 resolution
   - Landscape or Portrait orientation
   - Removable trim for near-seamless video wall tiling configurations
   - NanoSuite remote display control, monitoring and management

3) **What Markets are a Fit?** - This product is intended to directly replace and retrofit all 55-inch LCD information display systems in airports, retail digital signage, restaurant and concessions stand menu boards, and control room flat panel tiled LCD video wall displays.

4) **Is it a Video Wall Display?** - NanoPanel 55 is a standalone LED display and can operate independently via a direct HDMI connection. Multiple displays can be tiled to form a video wall; however, video wall configurations require an external content distribution to span multiple panels. NanoPanel 55 does not include intercabinet alignment features, so precise display-to-display alignment is dependent on the mounting solution.

5) **What LED Technology Does it Use?** - NanoPanel 55 uses vCOB technology which offers advantages such as higher perceived resolution and more visual smoothness.

6) **Does it have a Protective Finish?** – Yes, NanoPanel 55's COB technology delivers a finish that can provide general protection from damage from accidental impact.

7) **Does it have LED Processing?** – Novastar video display processing is built into each display enabling standalone operation. Because the controller is built in, tiled video wall applications require an external video distribution system.

8) **How Does it Mount?** – NanoPanel 55 features an industry standard 400x400 VESA mounting pattern, making it fully compatible with any universal mounting solutions from industry leaders including

Chief and Peerless.

9) **Does it have a Trim Kit?** – Displays ship with a standard dvLED trim kit which can be easily removed allowing units to be mounted together in near-seamless tiled video wall configurations. The trim can be applied to the outside display edges for added protection.

10) **Can I Buy Only One?** – NanoPanel 55 is available and sold in pallet quantities of 10 displays per pallet. Each pallet unit is bin matched with the same calibration.

11) **Can I buy Volume Pallet Orders?** – Yes, Nanolumens can facilitate up to 10 pallets per order (100 NanoPanel 55 displays).

12) **Does it have a Warranty?** – Yes, NanoPanel 55 comes with 3 Years NixelTM to Pixel Warranty.

13) **Does it Come with Spare Parts?** – Nanolumens provides each individual NanoPanel 55 with 12% bin-matched spare LED modules to ensure color match and quick maintenance.

14) **Does it have Remote Monitoring?** – Yes, NanoPanel 55 displays are Novastar processor based and are therefore compatible with NanoSuite Remote Monitoring.

15) **What Comes in the Box?** – Each NanoPanel 55 includes a User Manual, Power Cord, HDMI Cord and IR Remote Control. One module removal tool ship with each pallet order.

16) **How Does it Connect?** – The display supports HDMI, RJ45, Bluetooth and Wi-Fi

10 NANOPANEL 55 NIXEL™ TO PIXEL WARRANTY

This Standard Limited Warranty applies to all NanoPanel 55 displays sold by Nanolumens, Inc. to End Users, Resellers or Distributors, unless otherwise stated (these displays are referred to in this Warranty as a "Display" or the "Displays"). As used in this Warranty, the term Display includes the associated Nanolumens DIU devices.

Effective Date: The effective date for the beginning of Warranty Period is from the date of shipment of a Display from Nanolumens directly to an End User or the first date of shipment of a Display by a Nanolumens Reseller or Distributor to their customer.

Warranty: Nanolumens warrants to the End User that the Display will be free from defects in material and workmanship under normal use as intended by Nanolumens for the Standard Warranty Period. This warranty applies only to the Display as originally installed in accordance with Nanolumens' requirements at the End User's location and does not cover Displays installed outside of compliance with Nanolumens' requirements, displays resold beyond the initial installation, or Displays used as rentals or other temporary installations.

Standard Warranty Period: Standard warranty period for the NanoPanel 55 is 3 years for all Display components and parts.

Warranty Exclusions:

This Warranty does not cover:

(a) Display damage or loss including theft occurring during shipment from Nanolumens' facilities to the End User or distributor.

(b) Display damage or failure to LEDs beyond the Standard Warranty Period unless an Extended Warranty is purchased at the time of initial purchase.

(c) Display damage or failure associated with connecting or interfacing a Display with a device that has not been approved by Nanolumens.

(d) Display damage or failure associated with any repairs to the Display within the Warranty Period by any repair personnel who have not been authorized or approved by Nanolumens.

(e) Display damage or problems caused by the use of non-approved replacement parts.

(f) Display damage or failure caused by misuse, improper handling, improper moving, improper power source attachment, accidents, fire, flood, lightning, earthquake or other natural disaster or man-made disasters including power surge(s), vandalism, terrorism, tampering, environmental conditions, inappropriate storage and any improper mounting or hanging.

(g) Display damage or failure caused by improper installation/alignment or set-up or by service personnel who have not been approved by Nanolumens.

(h) Display damage or failure caused by any Display modifications except as performed by Nanolumens personnel or their authorized Service Partners.

(i) Display damage or failure caused by use of Displays while in motion unless on a platform or other movable device specifically approved by Nanolumens.

(j) Cosmetic LED or LED mask discoloration due to UV exposure.

(k) Use of Displays beyond Nanolumens factory authorized tolerances which are set or calibrated by Nanolumens prior to shipment.

(l) Displays or DIU devices whose serial number has been removed or obliterated.

(m) Displays sold by a Reseller to an End User, which is then resold or rented to a third- party.

Failure to perform appropriate regular maintenance as required and in accordance with the maintenance schedule specified by Nanolumens will void this Warranty. End Users/Customers are required to use appropriate shipping materials to return Displays (we recommend retaining the original packaging/crating and shipping materials, where possible). In the unlikely event components of the Display need to be returned to Nanolumens, the End User/Customer is required to pay the shipping and, if located outside the USA, export the components involved for repair to Nanolumens who will then pay the return shipping back to the End User/Customer of the repaired or replaced components.

Considered Defect/Failure:

Nanolumens will repair or replace a Display Board ("NixelTM") should even a single pixel fail to operate normally meaning fail to light at all, fail to light a component (RGB), being "stuck" on a color or become intermittent (weakened solder joint); if an electrical or electronic component fails to operate normally (power supply, digital communication boards, display interface unit, etc.); or a mechanical failure (excepting non-covered instances listed above) of the Display cabinet or Nanolumens-supplied mounting hardware.

Territory and Time of Repair:

The Warranty applies to Displays sold worldwide; however, the removal/reinstallation and all shipping costs of failed components remains the responsibility of the End User/Customer. This Warranty does not obligate Nanolumens to provide any on-site warranty service at the location of the Display. Nanolumens offers Service Level Agreements (SLA) that include on-site services, including all repair and maintenance, as well as offering enhancements to the on-site spares kit. There are different levels of SLAs available that include various levels of on-site spares and response windows. See your Nanolumens representatives for more details.

Warranty Process:

Nanolumens or their authorized Service Partner must be notified of the defect during the Warranty Period. The End User/Customer should email techsupport@nanolumens.com or call 1-855-233-2488 or notify the appropriate authorized Service Partner immediately on discovering the defect. A Repair Merchandise Authorization (RMA) number will be provided by Return email or at the time of the call. Upon receipt of defective parts under an RMA, Nanolumens will repair or replace the defective parts without charge during the Warranty Period. Nanolumens will make all reasonable efforts to complete the repair as quickly as practical.

In the event an End User/Customer chooses to purchase an SLA or on-site support, Nanolumens may stage parts at the End User/Customer location. These parts should be kept in a secure and accessible place. If Nanolumens or its authorized Service Partner does not have parts on site, then parts will be sent via overnight delivery at End User/Customers' expense during the Warranty Period. Surcharges/duties may apply for shipment of parts to international locations and these will be the responsibility of the End User/Customer.

In making any repair under warranty, Nanolumens or their authorized repair Service Partner may use new or refurbished parts. Nanolumens warrants replacement parts used in making warranty repairs for the remainder of the original Warranty Period. It is understood, however, that due to the nature of Chip-On-Board ("COB") technology, those Nixels that are manufactured using COB may bear minor inconsistencies once repaired or refurbished. In the event of a full replacement, Nanolumens does not guarantee that the color calibration of the replacement display will match the existing display lot.

This warranty may be supplemented or modified by other programs offered by Nanolumens, if applicable,

including Nanolumens extended Warranty Periods and/ or by express written agreement with Nanolumens. This warranty does not apply to obsolete, refurbished or demonstration Displays offered for sale by Nanolumens except as expressly agreed in writing.

Unless otherwise agreed in writing, Nanolumens shall not be obligated to store or return any Customer-owned parts or materials during the Warranty Period.

EXCEPT AS OTHERWISE EXPRESSLY AGREED BY NANOLUMENS IN WRITING, THIS WARRANTY APPLIES IN LIEU OF ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, AND NANOLUMENS MAKES NO OTHER REPRESENTATIONS, WARRANTIES OR CONDITIONS, WRITTEN, ORAL OR STATUTORY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OR CONDITION OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, ALL OF WHICH WARRANTIES OR CONDITIONS ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, NANOLUMENS WILL HAVE NO LIABILITY FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, INCLUDING WITHOUT LIMITATION LOST REVENUES OR PROFITS, WHETHER OR NOT NANOLUMENS HAS BEEN ADVISED THAT ANY SUCH DAMAGES MAY OCCUR.

NANOLUMENS SPECIFICALLY DISCLAIMS ANY LIABILITY DUE TO DEATH, DAMAGES OR INJURY DUE TO INAPPROPRIATE USE, MOUNTING OR HANGING OF THE SPECIFIED DISPLAYS. THIS WARRANTY IS GOVERNED BY THE LAWS OF THE STATE OF GEORGIA, USA, AND MAY NOT BE ASSIGNED.

Out of Warranty:
Repair/replacement of Displays that fail outside of the Standard Warranty Period or Extended Warranty Period will be subject to additional charges at MSRP and standard repair labor rates.

11 SPECIAL STATEMENTS

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