Outdoor Fixed LED Screen Installation Manual

Hard Connection Cabinet Version

Document rule: All items shown in red are fields to be filled manually for the specific project before release.

Item	Information
Project name	**[Fill in project name]**
Customer / site	**[Fill in customer name and site address]**
Pixel pitch	**[Fill in pixel pitch]**
Screen size	**[Fill in width x height, cabinet quantity, and total area]**
Control system	**[Fill in processor / sending card / media player model]**
Power standard	**[Fill in AC input voltage and distribution method]**
Prepared by	**[Fill in name]**
Document date	**[Fill in date]**

1. Scope and Product Reference

This manual is for EcoBeam outdoor fixed LED screen installation with hard connector cabinet docking and rear maintenance. It covers cabinet handling, fixed installation, combined power and signal wiring review, processor/computer connection, software handover space, maintenance, and acceptance checks.

Reference item	Value
Product image source	Desktop/EcoBeam outdoor cabinet rear view and product image
Applicable installation	EcoBeam outdoor fixed LED screen installation with hard connector cabinet docking and rear maintenance
Installation environment	**[Fill in indoor / outdoor site conditions]**
Final drawing package	**[Fill in drawing number or version]**

Before installation: Confirm the final cabinet layout, steel structure drawing, power distribution drawing, signal topology, receiving-card file, and spare-parts list before unpacking the screen.

2. Safety and Handling

- Use trained installers only. Wear gloves, safety shoes, and fall protection when working at height.
- Disconnect AC power before opening any rear cover, power box, or control box.
- Keep power cables and signal cables physically separated. Do not tie AC power and RJ45 signal into one tight bundle.
- Do not press, drag, or twist the LED display surface. Check damaged cabinets, modules, connectors, locks, or cables with photos.

Outdoor safety: Verify waterproof gaskets, cable glands, grounding, drainage, ventilation, and lightning protection before power-on. Do not leave rear covers open in rain or dust.

Tool / material	Purpose
Laser level / tape measure	Check frame level, cabinet position, and screen size.
Hex key / screwdriver set	Tighten locks, brackets, rear covers, and accessories.
Multimeter / clamp meter	Check AC input, grounding, continuity, branch current, and short circuits.
Laptop and spare parts	Load final configuration and prepare **[Fill in spare-parts quantity]**.

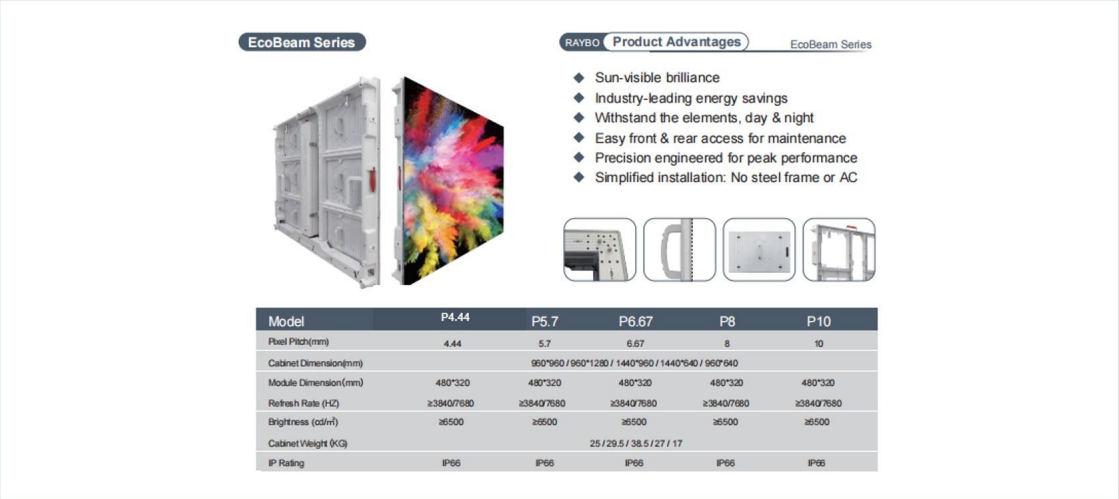
3. Packing and Pre-Installation Check

Step	Action
1	Check outer packaging for dents, water marks, or broken seals before signing the delivery record.
2	Open cartons or flight cases carefully and keep all labels for project traceability.
3	Compare the cabinet quantity, modules, power cables, signal cables, mounting accessories, spare parts, and control equipment against the packing list.
4	Power-on test a sample cabinet when the site condition allows, then label any abnormal cabinet for service.
5	Confirm the connection type is outdoor hard connection; do not mix cabinets or accessories from another version unless Raybo confirms compatibility.

Check item	Result
Cabinet quantity	**[Fill in checked quantity]**
Module quantity	**[Fill in checked quantity]**
Power cables	**[Fill in checked quantity and cable length]**
Signal cables	**[Fill in checked quantity and cable length]**
Mounting accessories	**[Fill in checked quantity]**
Processor / sender / media player	**[Fill in model and serial number]**

4. Product Overview

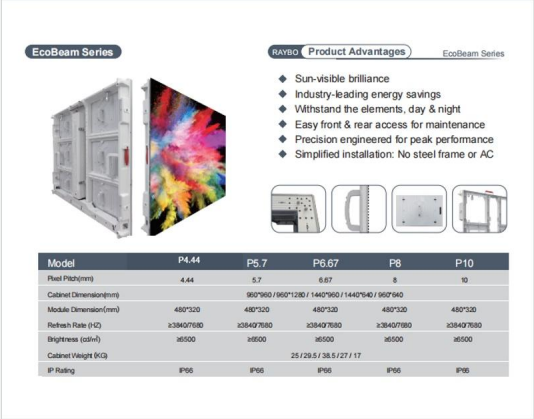
EcoBeam Outdoor Fixed Hard Connection Product Overview



Model	P4.44	P5.7	P6.67	P8	P10
Pixel Pitch(mm)	4.44	5.7	6.67	8	10
Cabinet Dimension(mm)	960*960 / 960*1280 / 1440*960 / 1440*640 / 960*640				
Module Dimension(mm)	480*320	480*320	480*320	480*320	480*320
Refresh Rate (HZ)	≥3840/7680	≥3840/7680	≥3840/7680	≥3840/7680	≥3840/7680
Brightness (cd/㎡)	≥6500	≥6500	≥6500	≥6500	≥6500
Cabinet Weight (KG)	25 / 29.5 / 38.5 / 27 / 17				
IP Rating	IP66	IP66	IP66	IP66	IP66

EcoBeam product overview and specification reference.

EcoBeam Product and Rear Cabinet Reference



EcoBeam outdoor fixed LED screen product reference



EcoBeam cabinet rear view

EcoBeam product image and rear cabinet reference.

4A. Cabinet Back Panel and Cable Reference

EcoBeam Outdoor Cabinet Rear View Reference

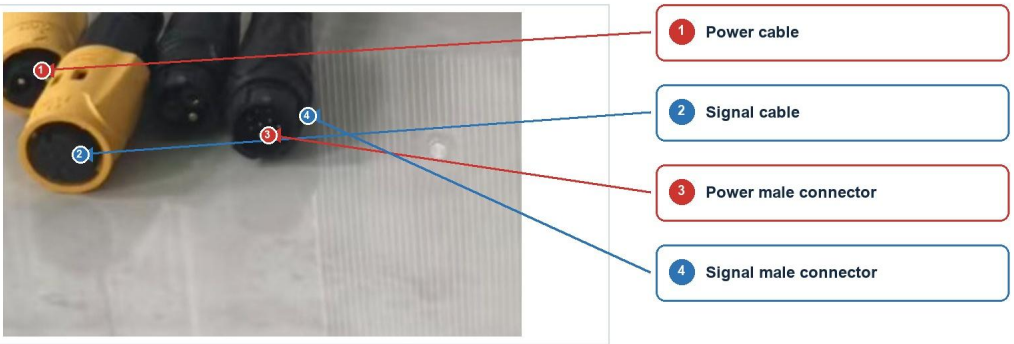


EcoBeam cabinet rear view: rear locks, service safety wires, handles, and POWER/SIGNAL IN/OUT labels.

EcoBeam Built-in Power and Signal Cable Reference



Built-in custom cable set on the rear side of the outdoor cabinet



Cable identification

From left to right: power cable, signal cable, power male connector, and signal male connector. Use the supplied custom cabinet cable set.

Power and signal wiring must be separated in the field. Confirm final parameters before commissioning.

EcoBeam built-in custom cable reference: from left to right, power cable, signal cable, power male connector, and signal male connector.

EcoBeam Rear Hardware and Interface Details



Top handle / service grip



Side red handle



POWER IN / SIGNAL IN



POWER OUT / SIGNAL OUT



Center rear lock area



Corner mounting point

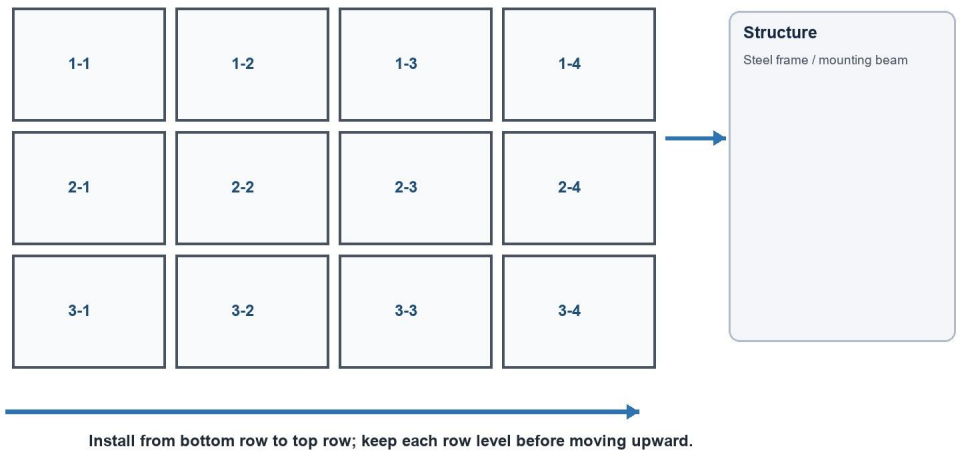
Use this product reference

Match all rear locks, handles, safety wires, and POWER/SIGNAL IN/OUT labels against the EcoBeam cabinet before installation.

EcoBeam rear hardware details: handle, lock, corner mounting point, and power/signal labels.

5. Cabinet Installation

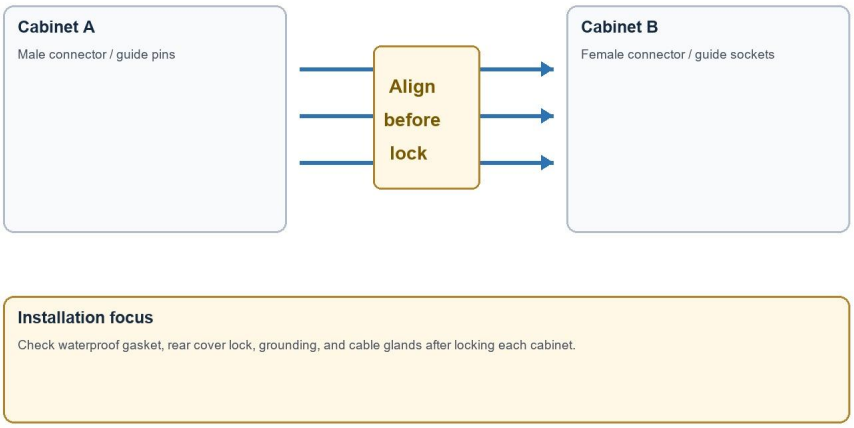
Outdoor Hard Connection Mounting Sequence



Install cabinets from bottom to top and keep each row level before continuing.

Step	Action
1	Inspect the approved mounting surface or structure, drainage route, grounding point, and service access before lifting cabinets.
2	Install bottom-row cabinets first and keep the cabinet bottom edge level across the full screen width.
3	Align hard connectors and guide pins before locking cabinets together. Do not force a cabinet into position.
4	Fasten the cabinet according to the approved EcoBeam mechanical drawing.
5	Close and lock rear covers after cable connection. Check the gasket and cable gland after every operation.
6	Complete waterproof, grounding, and branch power checks before final outdoor exposure.

Outdoor Hard Connection Installation Logic

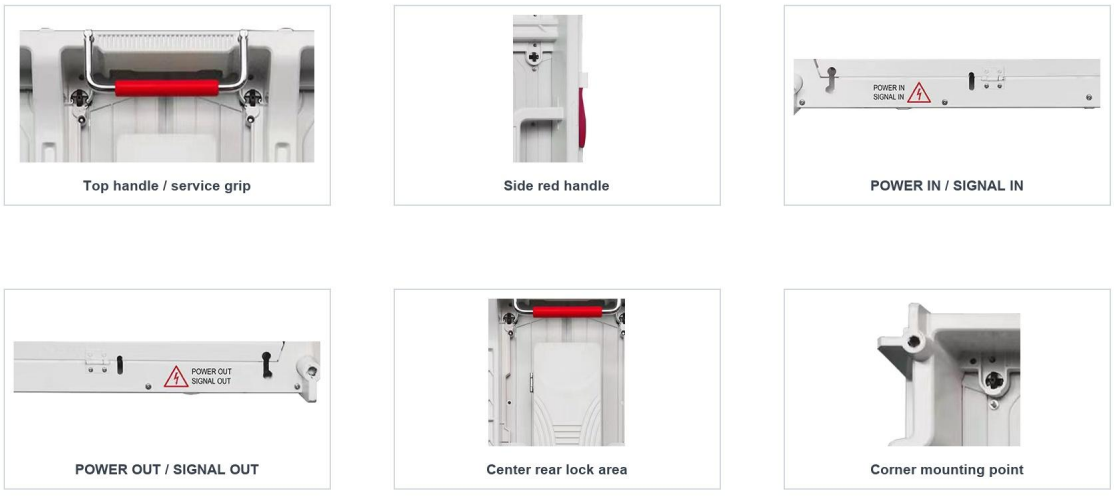


Connection-specific installation logic.

Outdoor caution: Waterproof performance depends on correct structure, cabinet locking, rear-cover sealing, cable glands, grounding, and site drainage. Inspect all of them before power-on.

5A. EcoBeam Outdoor Rear Hardware Reference

EcoBeam Rear Hardware and Interface Details



Use this product reference

Match all rear locks, handles, safety wires, and POWER/SIGNAL IN/OUT labels against the EcoBeam cabinet before installation.

Power and signal wiring must be separated in the field. Confirm final parameters before commissioning.

EcoBeam rear hardware and interface details for installation reference.

EcoBeam Rear Interface Reference



EcoBeam rear interface reference: POWER/SIGNAL IN and POWER/SIGNAL OUT labels are on the cabinet bottom edge.

Outdoor waterproof check: After every rear-cover operation, inspect the gasket, lock status, cable gland, and grounding point before the screen is exposed to weather.

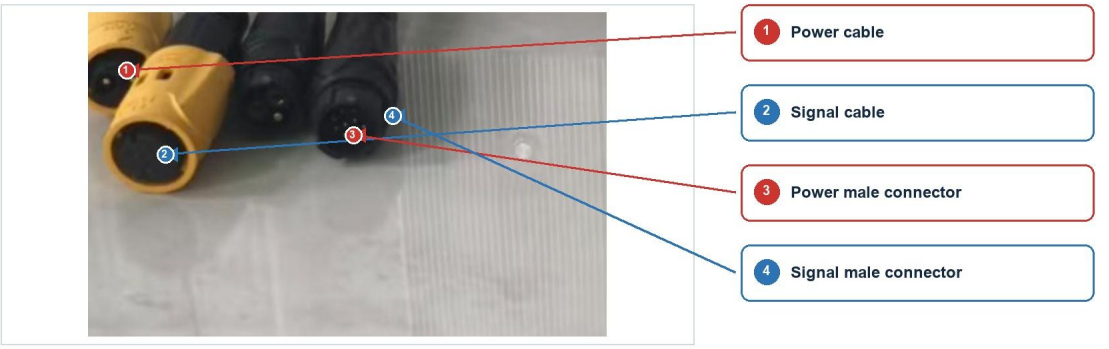
6. Power and Signal Cable Connection

Power cable connection and signal cable connection are treated as one installation step. The final drawing must show both routes on the same page, while still keeping AC power and RJ45 signal physically separated on site.

EcoBeam Built-in Power and Signal Cable Reference



Built-in custom cable set on the rear side of the outdoor cabinet

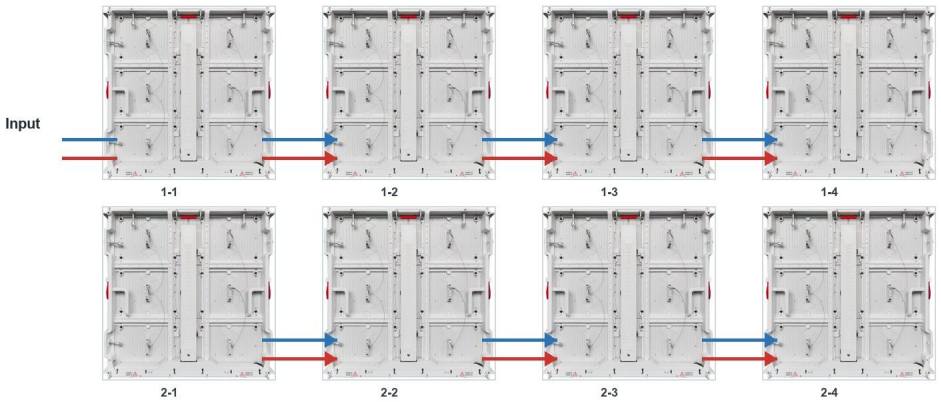


Cable identification

From left to right: power cable, signal cable, power male connector, and signal male connector. Use the supplied custom cabinet cable set.

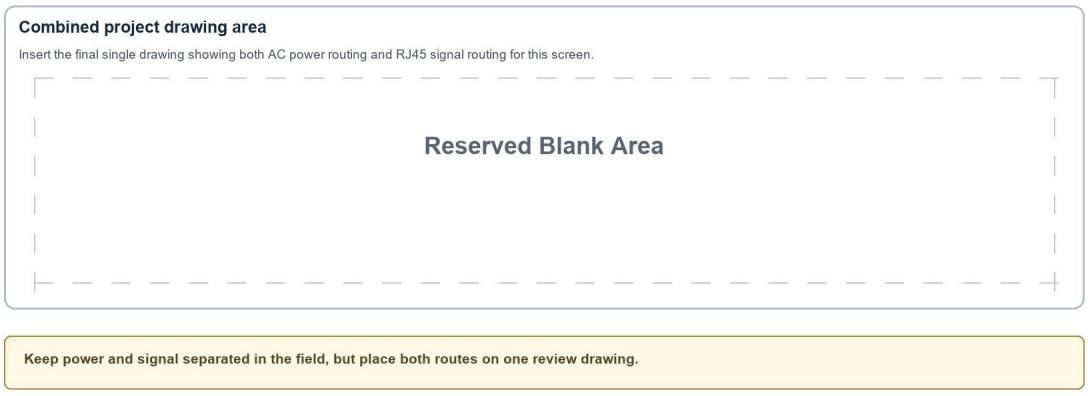
Built-in custom cable identification before connecting power and signal cables.

EcoBeam Power and Signal Routing Reference



EcoBeam outdoor power and signal routing reference based on the cabinet rear interface.

Power and Signal Cable Connection



Reserved space for the final combined power and signal routing drawing.

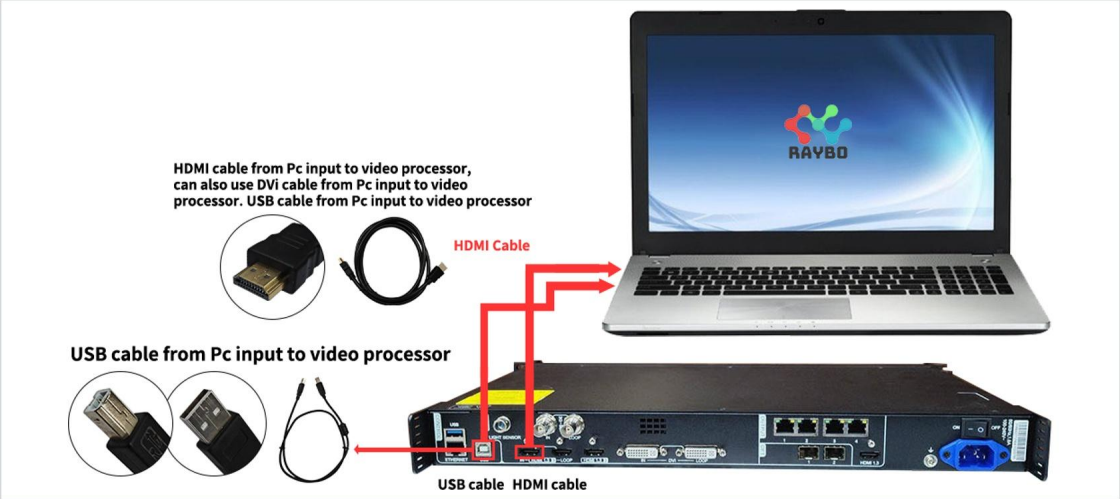
Connection item	Requirement
AC input	**[Fill in 110 V / 220 V input and distribution box information]**
Power cascade rule	**[Fill in maximum cabinets per AC branch according to project voltage and cabinet power]**
Signal topology	**[Fill in sender output, RJ45 route, backup route, and cabinet order]**
Single RJ45 output loading	Keep one RJ45 output at or below 650,000 pixels unless the

	controller specification confirms otherwise.
Cable separation	Do not route AC power and RJ45 signal together in the same tight bundle.
Grounding	**[Fill in grounding method and measured resistance]**
Waterproof cable entry	Confirm every power and signal cable enters through the correct gland and drip loop.
Lightning protection	**[Fill in surge protection and grounding details]**

Field sequence: Confirm the final drawing, route and label both cable types, then check voltage, grounding, indicator lights, and a simple image pattern before full commissioning.

7. Processor, Computer, and Software Setup

Processor and Computer Connection Reference



Processor and computer connection reference.

Control item	Project value
Processor / media player model	**[Fill in model]**
Computer connection	**[Fill in HDMI / DVI / DP / USB / LAN connection method]**
Sender output used	**[Fill in RJ45 output number and screen area]**
Receiving card file	**[Fill in RCFGX / CON file name and version]**
Screen resolution	**[Fill in width x height pixels]**

NovaLCT / Control Software Operation Guide

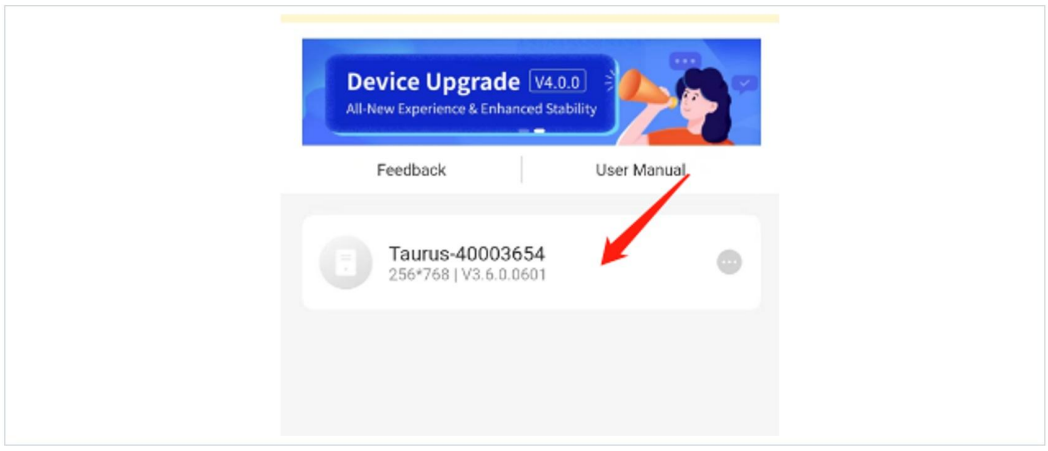
Reserved Blank Area

Insert project-specific NovaLCT, Colorlight, or media-player operation screenshots and parameters here.

Optional wireless media player setup

- When a TB-1 or wireless media player is supplied, connect the phone or laptop to the device Wi-Fi only during commissioning.
- Reference default Wi-Fi password from the outdoor guide: 12345678. Change the password after handover when the project requires it.
- Reference default media-player account from the outdoor guide: user name admin, password 123456. Update credentials after commissioning according to the customer's security policy.
- Record the final device name, IP address, Wi-Fi SSID, and account handover information: **[Fill in final handover information]**.

Outdoor Media Player App Reference



Reference app screen extracted from the outdoor guide.

8. Maintenance and Module Service

- Take photos before removing any module, cable, receiving card, power supply, or rear cover.
- Label the original cable position before unplugging it.
- Replace modules or control parts with the same model and calibration batch when possible.
- After replacement, test black, red, green, blue, white, grayscale, and video playback.
- After rear maintenance, clean dust or sand from the gasket area and lock the rear cover completely.
- Inspect waterproof seals after heavy rain, strong wind, or long-term high-temperature operation.

Symptom	Check first
No power on one cabinet	AC branch, power plug, power supply, fuse, internal power cable.
No signal on one cabinet	RJ45 input/output order, receiving card indicator, loose signal cable.
Wrong image order	Cabinet mapping, sender output order, screen configuration file.
Color difference	Module batch, calibration file, brightness/chroma setting.
Outdoor water ingress	Rear cover lock, gasket, cable gland, drainage, cabinet tilt, site sealing.

9. Final Acceptance Checklist

Acceptance item	Result
Structure level and flatness checked	**[Pass / Fail / Notes]**
Cabinet order matches drawing	**[Pass / Fail / Notes]**
All locks and brackets tightened	**[Pass / Fail / Notes]**
Power branches labeled and measured	**[Pass / Fail / Notes]**
Signal route and backup route tested	**[Pass / Fail / Notes]**
Processor output and screen resolution confirmed	**[Pass / Fail / Notes]**
Full-screen test patterns passed	**[Pass / Fail / Notes]**
Spare parts and documents handed over	**[Pass / Fail / Notes]**
Waterproof covers, cable glands, and gaskets checked	**[Pass / Fail / Notes]**

Grounding and surge protection confirmed	**[Pass / Fail / Notes]**

10. Contact Support

Support item	Contact / information
Sales manager	**[Fill in name]**
Technical support	**[Fill in WhatsApp / email / phone]**
Remote support software	**[Fill in ToDesk / AnyDesk / TeamViewer ID]**
Project file archive	**[Fill in cloud folder or local file path]**