



LED External Sending Box

Professional LED Sending Card Chassis

The Ideal Engineered Solution for Multi-card Splicing in Large LED Display Systems.

Technical Background: LED Display Control System Architecture



01 Signal Source Layer

Provides original video signal input from computers, cameras, media servers, and other sources.



02 Signal Processing Layer

Processes input signals (switching, scaling, splicing). Core devices: video processors, matrix switchers.



03 Control & Transmission

The "brain" of the system, consisting of sender and receiver cards for high-speed data processing and transmission.



04 Display Execution Layer

Terminal display carriers (LED modules, driver ICs, PCBs) that convert electrical signals into visual images.



05 Power Distribution Layer

Provides stable power via distribution cabinets, UPS, power cards, forming the system's power foundation.



Sender Card — "Splitter and Scheduler" of Data

Installed in PCs or dedicated players, it captures image data, performs color correction/resolution adaptation, "splits" the image by physical layout, and transmits data to receiver cards via high-speed interfaces.



Receiver Card — "Driver and Executor" of Display

Deployed inside LED cabinet, it receives data from sender cards, buffers/converts data, drives LED beads to emit light accurately, and is the key bridge between control system and display modules.

Technical Background: Necessity of Multi-card Splicing

What is Multi-card Splicing?

When the total number of pixels of an LED display exceeds the maximum load capacity of a single sending card, **multi-card splicing** technology must be used. Multiple sending cards work together to drive different areas of the screen, breaking through hardware limitations to achieve immersive display effects with ultra-large area and ultra-high resolution.



Traditional PC Case Solution: Hidden Risks

The system is bulky with messy on-site wiring. Poor power supply stability and low heat dissipation efficiency make maintenance difficult and increase the risk of equipment failure and safety hazards.



All-in-one Controller: Limited Capability

Limited by hardware design, its load capacity has an upper limit and cannot meet the needs of ultra-large screen projects. High functional integration also leads to insufficient expansion flexibility for complex scenarios.



— Designed to solve engineering pain points of multi-card splicing, it redefines the stability and efficiency of large-screen display control with a professional-grade architecture.

Product Analysis: Core Value



Integrates multiple independent LED sending cards into a standard 1U rack-mount chassis, creating a standardized and professional "control and transmission layer" for ultra-large LED screen projects, which is an ideal solution for engineering implementation.



Standardized Solution to Multi-Card Splicing Challenges

Designed for "multi-card splicing" scenarios, it productizes and standardizes complex installation, power supply and wiring, eliminating messy DIY wiring and reducing on-site construction difficulty.



Industrial-Grade Design Enhances System Stability

Provides regulated power supply and optimized cooling, reducing signal failures from unstable power or overheating. System reliability is significantly improved compared to fragmented solutions.



1U Rack-Mount Design Optimizes Deployment & Maintenance

The compact 1U rack size saves cabinet space with neat wiring, facilitating system integration and future equipment inspection, upgrade and maintenance.

Product Analysis: Detailed Features



Core control chassis is designed for high-density LED display control. It integrates powerful hardware performance and user-friendly structural layout, making it an ideal carrier for professional display solutions.

Highly Scalable Architecture

Equipped with 4 standard PCIe slots, supporting parallel connection of 4 mainstream sending cards, with a total loading potential of up to 8 million pixels, easily driving large LED screens.

1U Rack-mount Design

Compliant with standard cabinet installation specifications, made of thickened metal plates, sturdy and durable, effectively protecting internal core components and saving room space.

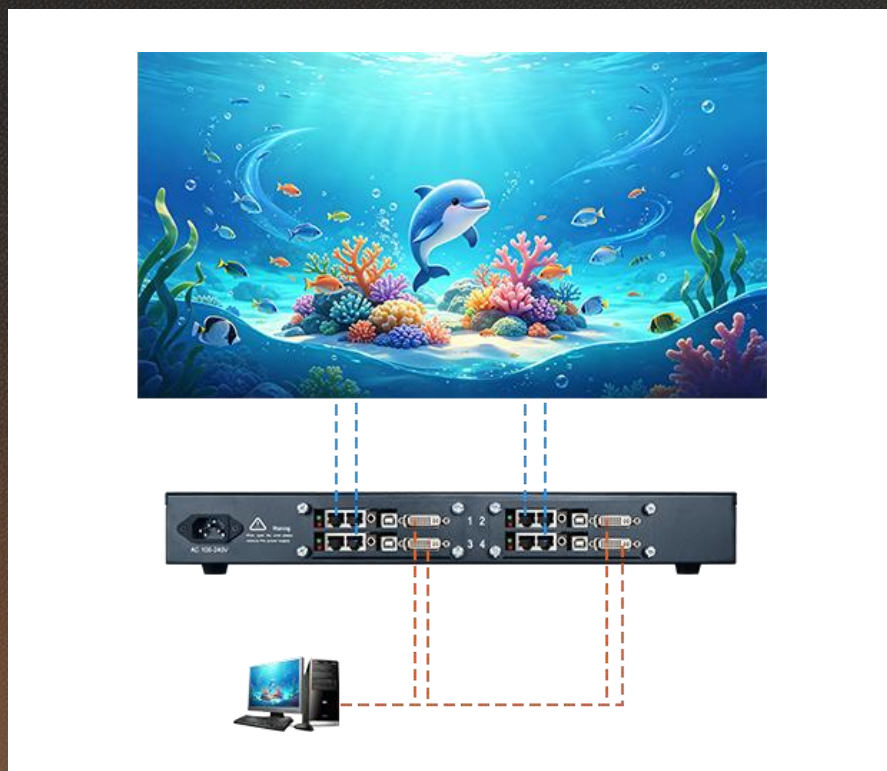
Industrial-grade Stable Power Supply

Built-in industrial-grade power module for pure power; supports AC 100-240V wide voltage input, perfectly adapting to different power grid environments worldwide.

Efficient Heat Dissipation & Wiring

Optimized air duct design ensures high-load heat dissipation efficiency; centralized power and network port layout keeps system wiring neat and maintenance easier.

Product Analysis: Working Principle



System topology, illustrating the complete data flow and hardware connections from the control PC to the LED display for efficient and stable large-screen control.

01. Physical Connection

A **PCIe extension cable** directly links the PC's PCIe slot to the sending card slots in the LTB200 chassis, building a stable hardware communication foundation.

02. Data Transmission

High-res image data from the PC's GPU is transmitted via the PCIe cable to 4 professional sending cards in the chassis, ensuring real-time and complete signal delivery.

03. Image Processing

The 4 sending cards work in tandem with the preset splicing scheme, intelligently segmenting and processing screen data in parallel for precise image reproduction and color optimization.

04. Signal Output

Processed data is output via the sending cards' network ports to the LED cabinet receiving cards, finally driving the entire display to show a smooth, synchronized large image.

Product Analysis: Technical Specifications

Parameters	
General Specifications	
Power Supply	Internal 100 ~ 240V AC, 50 ~ 60Hz ;
Temperature	Storage: T: -40 °C ~ +80 °C、H: 10% ~ 90%, Non-condensing; Working: T: 0 °C ~ +60 °C、H: 10% ~ 90%, Non-condensing;
Machine Size	485mm (Length) x 285 mm (Width) x 50mm (Height)
Packing Size	550mm (Length) x 350 mm (Width) x 120mm (Height)
Product Weight	Gross Weight: 2.5Kg;
Package Weight	Volume Weight: 4.0Kg ;
Warranty	1 Year; Note: All Rated Voltages Are On Average ±10%;

Specification sheet details core indicators such as power supply, dimensions, and environmental adaptability. All parameters meet the stringent standards of professional engineering-grade products to ensure stable system operation.

Professional Rack Design

Standard 1U rack-mount structure with thickened metal plates (485×285×50mm), easy for cabinet integration, sturdy and durable.

Strong Expansion Compatibility

Supports up to 4 standard LED sending cards, fully compatible with mainstream brands like Linsn and NovaStar to meet diverse signal needs.

Wide Power Supply Adaptability

Supports AC 100V~240V global wide voltage input and 0~60 °C operating temperature, adapting to complex on-site power and environmental conditions.

Safe and Reliable Protection

Shell grounding design prevents static electricity and leakage effectively. Lightweight body (~2.5Kg) with 1-year standard warranty for worry-free after-sales service.

Product Analysis: Internal Structure & Installation



The internal structure is meticulously designed, with ample space and rational layout, perfectly balancing installation convenience and device operation stability, providing a solid guarantee for project implementation.



Standardized PCIe Slot Design

Equipped with 4 standard PCIe slots inside, it is perfectly compatible with mainstream sending cards on the market, requiring no additional adapters and supporting plug-and-play, which greatly reduces hardware adaptation costs and installation complexity.



High-Load Long-Lasting Heat Dissipation Layout

Sufficient internal vertical space and scientific air duct design ensure that heat can be quickly dissipated when multiple sending cards work at full load simultaneously, effectively avoiding the risk of device frequency reduction or downtime caused by overheating.



Clear and Tidy Engineering Wiring

Reasonable wiring channels and cable tie points are reserved, making the internal wiring clear and orderly, which not only improves the overall aesthetics, but also greatly facilitates later inspection, replacement and maintenance work.

Application Scenarios: Large Stage Backdrop Screens



Live shots from concerts, music festivals, etc.: Giant immersive LED backdrop screens, paired with the powerful computing power, deliver a highly impactful audio-visual feast.



Stringent Scene Requirements

Stage backdrop screens for concerts and music festivals are enormous in size and extremely high in resolution, imposing ultimate stringent requirements on real-time video decoding, high-speed picture transmission, and effect synchronization, with no room for even a millisecond of delay.



Robust Solution

It stably supports the parallel connection of 4 high-performance sending cards, easily driving thousands of square meters of ultra-high-definition stage backdrops, ensuring real-time rendering and transmission of massive pixels, smooth and stutter-free images, and perfectly restoring artistic creativity.

Application Scenarios: Super Large Outdoor Advertising Screens



Landmark outdoor LED screens in cities are not only visual focal points but also the ultimate test of equipment stability and environmental adaptability.



Harsh Outdoor Environment & Operational Requirements

As urban landmarks, advertising screens need to operate stably 7x24 hours a day, while facing challenges from harsh outdoor environments such as high temperature, high humidity, and dust, placing extreme demands on equipment reliability.



Industrial-Grade Hardcore Solution

With industrial-grade stable power supply and precision heat dissipation design, it ensures long-term trouble-free operation in harsh environments; the professional modular wiring system greatly reduces the difficulty and cost of later maintenance, perfectly adapting to super large outdoor scenarios.

Application Scenarios: Command/Mission Control Centers



Modern command centers integrate multi-channel HD signals and achieve full-link visual monitoring and emergency dispatching through standardized cabinet deployment, serving as the "smart brain" for urban safety and traffic management.



Core Business Requirements

Scenarios such as emergency command and traffic monitoring require processing multi-channel HD video signals. The system must operate 7x24 hours without interruption, with zero-latency signal transmission and absolutely stable display to ensure real-time delivery of critical decision-making instructions.



Core Solution

Control core, it provides a stable base for real-time scheduling of multi-source signals. Its standardized cabinet design perfectly adapts to room specifications, ensuring exceptional reliability and compatibility under high-load operation.

Application Scenarios: Large Venue Perimeter Screens



In large venues such as gymnasiums and convention centers, irregular perimeter screens have become standard equipment. They create an immersive visual environment for on-site audiences and place extremely high demands on the splicing capability of the control system.



Splicing Control Requirements for Complex Scenarios

Perimeter or irregular screens in gymnasiums, convention centers and other places usually require multiple sending cards to work together to achieve complex geometric correction and image fusion, which imposes stringent requirements on the stability and synchronization of the system.



High-Scaling Immersive Solution

With its excellent high scalability, perfectly adapts to complex multi-card splicing scenarios, accurately synchronizes signals across screens, and ensures smooth and tear-free images, bringing a shocking and coherent immersive visual feast to the on-site audience.

THANKS



Thank You Very Much

Shenzhen Amoonsky Technology Co., Ltd.