HUB Adapter Boards

Professional Connection, Efficient Control

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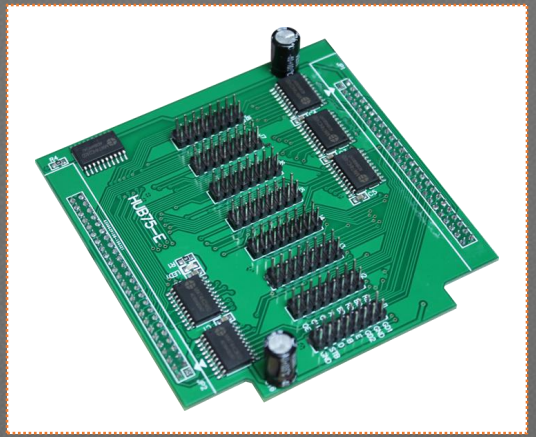
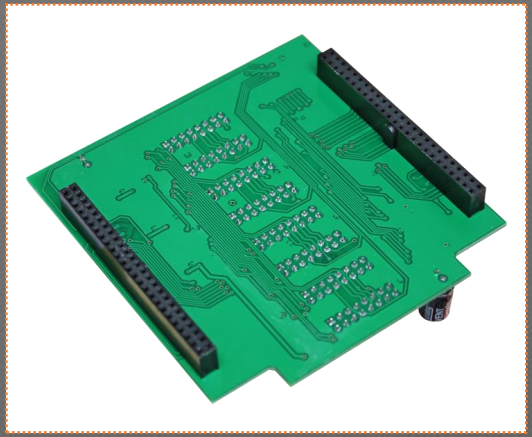




As the core connection point of the system, the HUB adapter board not only solves the interface adaptation problem between the control card and modules, but also enables flexible distribution of standardized signals, which is the key guarantee for the compatibility and expandability of LED displays.

What is a HUB Adapter Board?

A HUB adapter board, also known as a distribution board or scanning board, is an indispensable core component in the LED display system. It acts as a "signal traffic hub" and "regional commander", serving as the key bridge connecting the LED receiving card and the LED display module.

Signal Flow: Computer/Player → Sending Card → Receiving Card →**HUB Adapter Board**→ LED Display Module. It is a key node for signal conversion and distribution.

As LED module interface definitions vary while control card output interfaces are fixed, the core function of the HUB adapter board is to solve the interface mismatch problem, converting and distributing standardized signals to LED modules of different specifications, thus improving system compatibility.

Core Functions of HUB Adapter Boards

1. Signal Conversion and Distribution

Receives serial data signals from the control card, converts them to parallel data signals recognizable by the LED module, and distributes them precisely to each module.

2. Driving and Scanning Control

Controls the row and column signals inside the LED module according to commands from the control card to execute specific scanning drive methods (e.g., 1/4 scan, 1/8 scan).

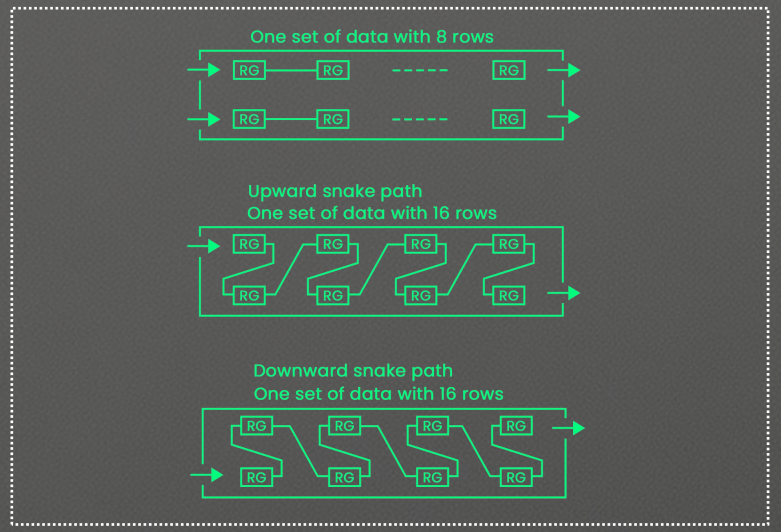
3. Area Management

A single HUB board typically drives a specific area of the display, managing data and scan signals for all modules in that area, ensuring stable and synchronized images.

4. Enhancing System Compatibility and Flexibility

By changing HUB boards of different models, the same control card can drive various LED modules, greatly enhancing system flexibility and compatibility while reducing maintenance and replacement costs.

Interpretation of Core Technical Parameters



01. Scan Mode

It refers to how the display lights up pixels row by row, usually expressed as a fraction. Smaller scan numbers (e.g., 1/4 scan) yield higher brightness, refresh rates and smoother motion. Larger numbers (e.g., 1/8 scan) reduce power consumption but lower brightness and refresh rates.

02. Gray Scale

8 Bit

8-bit grayscale: 256 levels, meets basic display needs with natural color transitions.

10 Bit

10-bit grayscale: 1024 levels, rich color gradations and finer image details.

12 Bit

12-bit grayscale: 4096 levels, delivers ultimate color reproduction and a realistic visual experience.

Gray scale is a key indicator of an LED display's color performance. Higher levels mean smoother color transitions, richer gradations, and perfect rendering of light and shadow details without color banding.

04 Detailed Product Introduction of HUB Series

Model	Input Interface	Output Interface	Control Card	Remark
HUB12	1*50Pin	16*HUB12	U64/E66/C10/D30···	Single-double color & full-color cards
HUB08	1*50Pin	8*HUB08	U64/E66/C10/D30···	Single-double color & full-color cards
HUB08-16	2*50Pin	16*HUB08	E66/C10/C30/A30/R500	2 rows of 50-pin interface
HUB08-75	2*2HUB08	1*HUB75	U62/U63/W62···	Quantity>2, 08 interface single-color card
HUB75B-4	1*50Pin	4*HUB75B	E64/U64/W64/D30	2 rows of 50-pin interface
HUB75E-5	1*50Pin	5*HUB75E	Only D30	
HUB75B-8	2*50Pin	8*HUB75B	E66/C10/C30/A30/R500	Only 2 rows of 50-pin interface control card
HUB75E-10	2*50Pin	10*HUB75E	C10/C30/A30/R500	Only full-color card
HUB40A	2*50Pin	8*HUB40A	C10/C30/A30/R500	Only full-color card
HUB Image				
HUB Interface Definition				

The parameter table fully covers all series models from HUB12 to HUB75, detailing input/output interface definitions and compatible controller card types, serving as a core basis for selection and engineering applications.

Full-Scenario Interface Adaptation Solution

Huidu's HUB series products cover mainstream interfaces such as 50Pin/2x50Pin, perfectly adapting to U, C, D, A, R and other full-series control cards, meeting the diverse engineering needs of monochrome, dual-color and full-color LED displays.

Flexible Model Matrix System

From basic HUB12 to high-performance HUB75 series, it provides targeted drive expansion capabilities, compatible with modules of different scanning methods, and maximizes the reduction of system construction costs.

Standardized Engineering Selection Guide

The parameter table clearly shows clear parameter definitions and compatibility notes, providing a standardized basis for on-site construction and later maintenance, greatly shortening the commissioning cycle and improving system stability and compatibility.

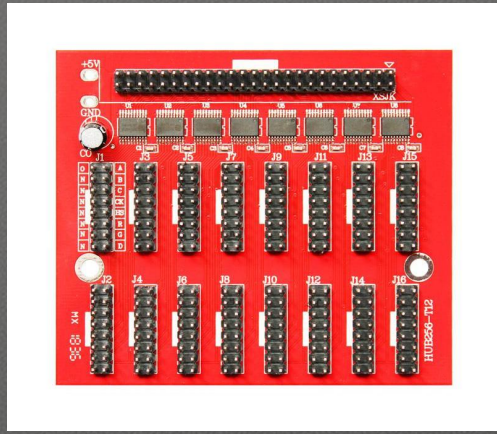
HUB12 Series Adapter Boards

Core Interface and Function Definition

Using a 2x7 or 2x8 standard pin header interface, it is a classic interface specification for monochrome and dual-color LED displays. It mainly drives single red, single green, and red-green dual-color LED modules, featuring stable signal transmission and strong adaptability.

Specifications and Typical Adaptations

Input is an IDC cable interface, and output provides multiple standard HUB12 interfaces. It perfectly adapts to Gray Technology's HD-U62/U63, HD-W62/W63 series control cards, and is widely used in door head screens, strip screens, information display screens and other monochrome/dual-color display terminals.



Standardized Hardware Design

Industrial-grade circuit layout with strong anti-interference capability ensures stable and consistent signal transmission.

Diverse Application Scenarios

Suitable for outdoor door heads, indoor strip screens, etc., meeting commercial advertising and information release needs.

A core adapter component for monochrome/dual-color LED display solutions, with high compatibility providing reliable assurance for project implementation.

HUB08 Series Adapter Boards

Physical display of the Hub08 adapter board, designed with an industrial-grade PCB, integrating multiple standard outputs, it is a core adapter component in monochrome/dual-color LED display systems.

Classic Interface Definition, Dedicated Driver Solution

Using a 2x8, 16-pin header interface design, its signal definition is incompatible with HUB12, making it another widely used classic interface standard in the monochrome/dual-color LED display field.

Interface Specification Configuration

Input uses an IDC cable interface for stability and reliability; output provides multiple standard HUB08 interfaces, which can directly drive monochrome/dual-color LED modules of corresponding specifications.

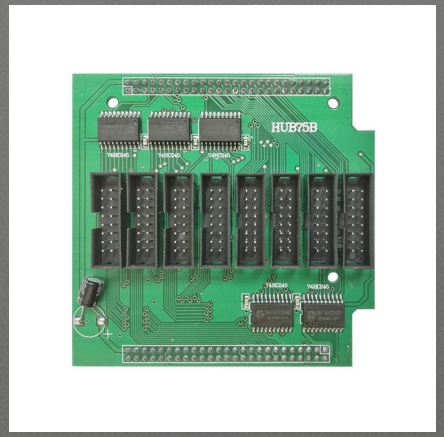
Adaptation and Application Scenarios

Perfectly compatible with Gray Technology HD-U62/W62 and other series of control cards, it is widely used in various indoor and outdoor advertising screens, information display screens, and door head scrolling text screens.

As a mainstream interface solution for monochrome/dual-color LED displays, the HUB08 series and HUB12 series together form a complete compatibility system, ensuring that it can meet the needs of most monochrome/dual-color modules on the market.

The Mainstream Choice for Full-Color Displays - HUB75 Series Adapter Boards

HUB75 is the most mainstream interface standard for full-color LED displays, with stable RGB three-color data transmission capability. Huidu Technology has launched a variety of HUB75 series adapter boards, which can flexibly adapt to different scanning methods and module types, providing reliable drive connection solutions for various full-color display scenarios.



HUB75B-4 Adapter Board

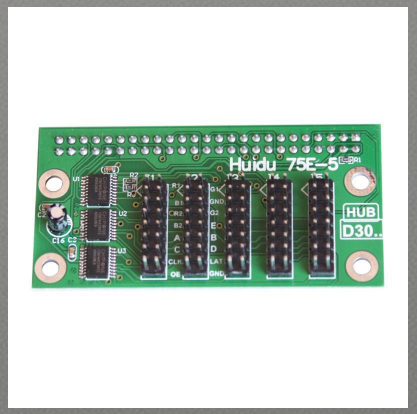
Designed for full-color modules with specific scan modes, it features a compact circuit layout and stable signal transmission. It is a core adapter component for indoor medium and high-density full-color LED displays, with strong compatibility and easy installation.

Adaptation Solutions and Application Scenarios

Compatible with Huidu full-color control cards such as HD-A30/A40/A60 and HD-Q30/Q40/Q60, it is mainly used for**1/4 scan**full-color LED modules, and is widely used in indoor high-definition advertising screens, conference large screens, stage background screens and other scenarios.

Enhanced Interface, Higher Performance

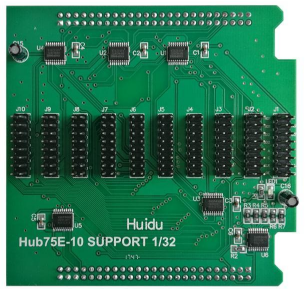
HUB75E is an important evolution of the HUB75 interface (Enhanced HUB75). By adding an extra OE enable signal, it greatly improves the refresh rate and display effect. Optimized for small-pitch LED displays with high scan rates, it effectively solves display noise and uneven brightness in high-scan scenarios, and is a core interface solution for modern high-end LED displays.



HUB75E-5

Compatible with Huidu full-color control cards supporting the HUB75E interface, and designed for full-color modules with unconventional scanning methods.

Core Advantage: Mainly used for**1/5 scan**full-color LED modules.



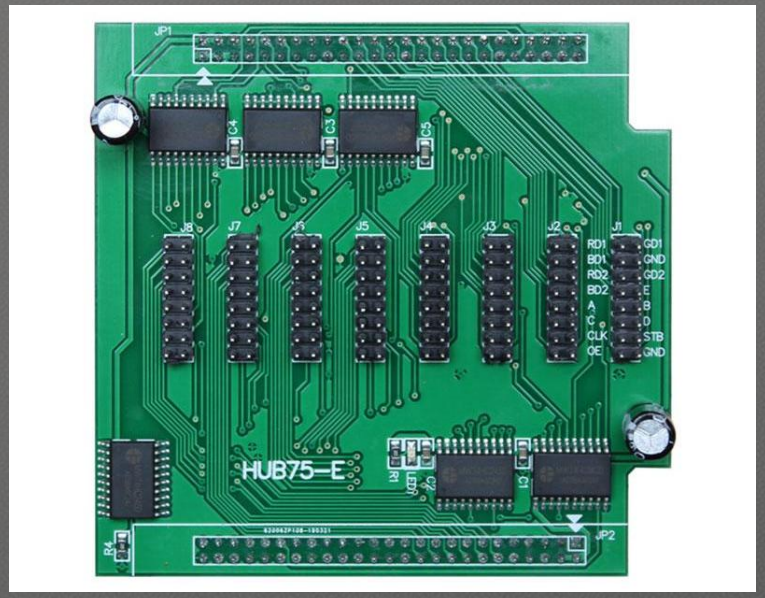
HUB75E-10

Optimized for LED modules with higher scan numbers, improving signal stability for high scan rate display requirements.

Core Advantage: Used for**1/10 scan**modules to effectively reduce brightness loss.

Other Models

precisely adapting to full-color LED modules with different scanning methods on the market, and providing flexible and efficient control solutions for various display projects.



Physical display of the adapter board, with precision circuit design, stable and reliable, perfectly compatible with mainstream full-color LED display module specifications.

HUB41

it has excellent signal driving capabilities and can adapt to a variety of conventional resolution outdoor and indoor LED displays.

HUB45

it effectively improves the refresh rate while ensuring display quality, suitable for scenarios with high requirements for picture fluency.

HUB116

its unique circuit architecture ensures stable signal transmission, widely used in small-pitch, high-density LED display projects.

HUB320

it supports higher-density pixel arrangements and provides precise and efficient control support for ultra-clear LED large screens.

Thank You

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Looking forward to partnering with you to create a new future of intelligent technology