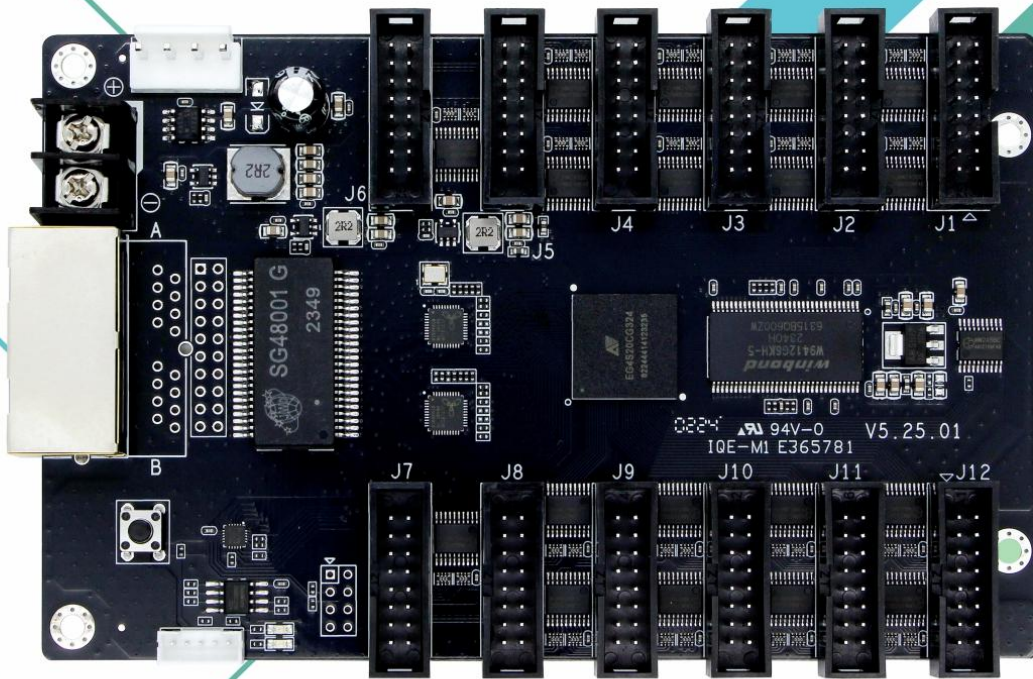




**ZH LED Control System**



# T12Plus

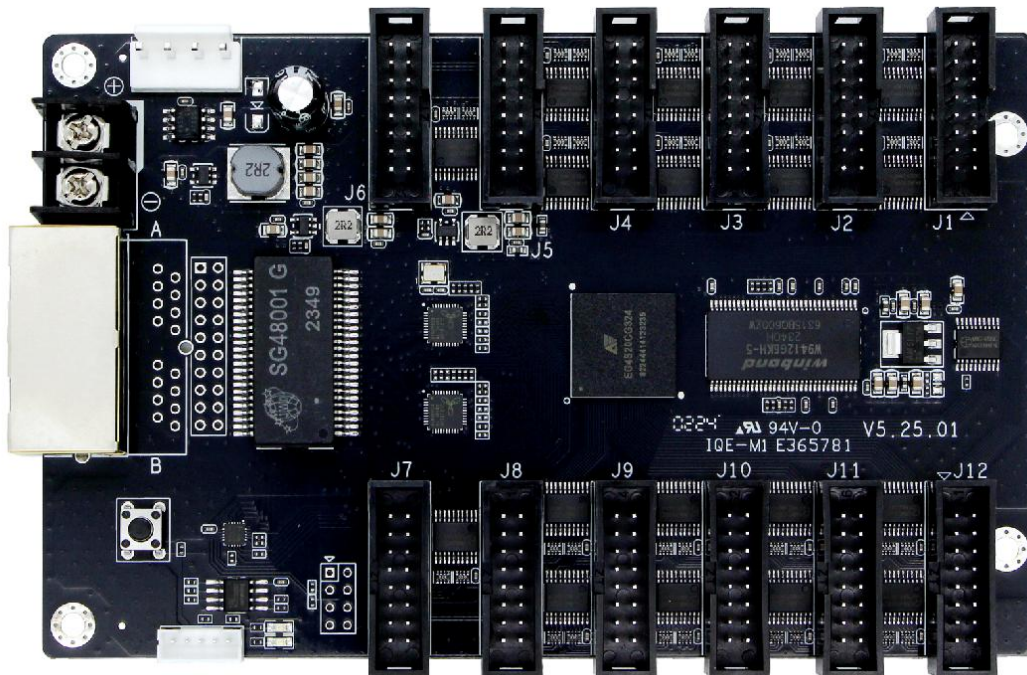
## Receiving Card Product Specification



## Receiver ZH-T12 Plus Specification

### I. Introduction

ZH-320Plus receiving card is a product created by ZH to meet the rental market and engineering projects of the LED industry. Adopting a new communication architecture, high refresh, high brightness, new gray-scale scanning engine, nanosecond-level synchronization, smooth communication can still be maintained in poor communication conditions, allowing users to experience a more colorful and better LED world!



### II. Features

1. Integrated HUB75 interface, no need for adapter board, more convenient;
2. Reduce plug connectors, reduce failure points, and lower failure rate;
3. Support conventional chips to achieve high refresh, high grayscale, and high brightness;
4. New grayscale engine, better low grayscale performance;
5. The detail processing is more perfect, which can eliminate detail problems such as darkening of certain rows, low gray and reddish, ghosting, etc. caused by the unit board design;
6. Supports all conventional chips, PWM chips and lighting chips;
7. Supports static screen and any scanning type between 1/2~1/128 scans;
8. Supports arbitrary sampling points and data offset, which can easily realize the control and loading of



## ZH LED Display Control System

various special-shaped screens, spherical screens, and creative displays;

9. Single card supports 24 groups of RGB signal outputs;

10. Supports large loading area;

11. Advanced design, high-quality components, fully automatic high and low temperature aging test, zero failure factory;

12. Supports DC 3.8V~5.8V ultra-wide operating voltage, effectively reducing the impact of voltage fluctuations;

13. Support power reverse connection protection circuit.

### III. Parameters

Network port	The network port does not distinguish between input and output, and can be used for any exchange
Sync between cards	Nanosecond-level synchronization between cards
Play effect	Refresh rate of conventional chips: Static: The refresh rate can reach 16000Hz 1/8 scan: Refresh rate can reach 10000Hz Serial frequency: 4.1MHz-31.25MHz
Grey level	256~65536 levels Gray scale can be adjusted
Gray scale compensation	Compensate by refresh scan mode
OE control	OE control accurate to 8 nanoseconds, making low ash control more precise
Support IC	Conventional chips, PWM chips, lighting chips and all mainstream LED driver chips; The PWM chip supports hundreds of chips of different specifications such as MBI, MY, and SUM series
Scanning method	Regular scanning mode and high refresh photo mode
Scan type	Any scan type between static and 1/128 scan
Number of data sets	24 sets of full-color data
Multiple outputs	Support 2/3/4/6 sets output
Data exchange	Support arbitrary exchange of 24 sets of data
Gigabit communication	Support sending card and gigabit network card sending
Size	H:144.07mm, W: 90.98mm
Input voltage	DC 3.8V~5.8V

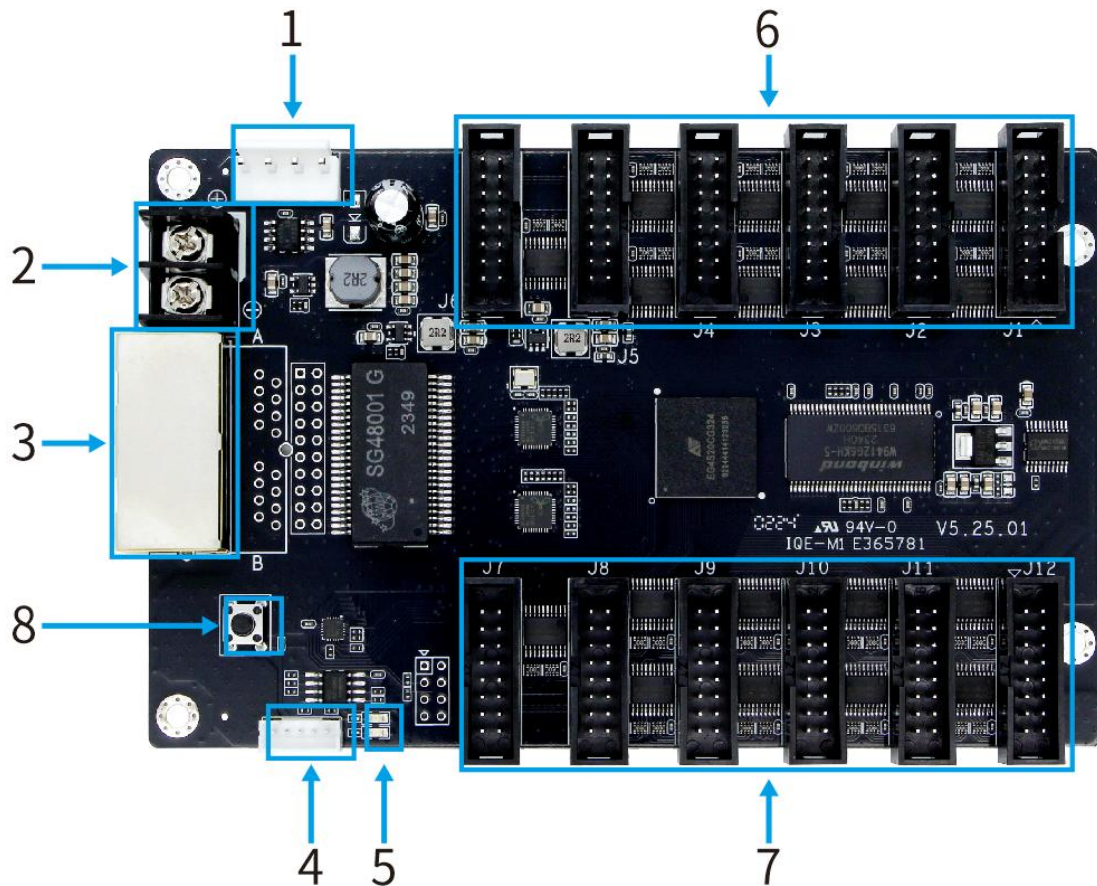




## ZH LED Display Control System

Rated current	0.8A
Rated power consumption	4W
Operating temperature	-20°C to 75°C

### IV. Hardware



#### A. Hub port

NO.	Name	Function	Notes
1、 2	Power input	Connect DC 3.8V~5.8V power supply to supply power for receiving card	Only choose one to use is ok
3	LAN port A	RJ45, used to transfer signal	Dual network ports can enter and exit at will, and the system can intelligently identify
	LAN port B	RJ45, used to transfer signal	
4	External interface	External interface about indicator light and test button	
5	Power indicator	Indicates power status	Red



## ZH LED Display Control System

	Signal indicator	Indicates signal status	green
6/7	HUB port	HUB75 port, J1 ~ J12 connect with display panel board	
8	Test button	Built-in test program, can realize red, green, blue, white four monochrome display, scan display in sweeping, vertical sweeping and other ways	

### B. Indicator

Red : Red light on, it means that the power is on.

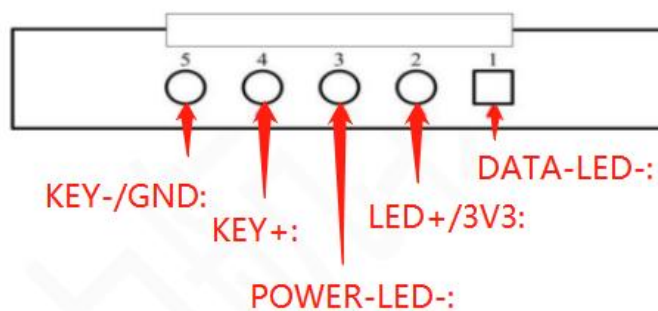
Green : Green light on or off, flashing rapidly, indicating that the data signal transmission is normal.

### C. HUB75 pin definition

Date Signal				Scan Signal		Control Signal	
GD1	empty	GD2	E	B	D	LAT	GND
2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15
RD1	BD1	RD2	BD2	A	C	CLK	OE
Date Signal				Scan Signal		Control Signal	

Note: With HUB75 interface own scanning E signal and supports 32-scan display.

### D. Definition of external interface pins



## V. Mechanical Diagram

Unit:mm



# ZH LED Display Control System

