T7H Sender

User manual

Version：V1.0

2015-11-26

Content

I. Product introduction

T7H sender is the most commonly used synchronous system sender, it is adopted the dual-USB interfaces to realize high-speed communication with PC and easy cascading between sender cards.

It supports wide working voltage with AC 100~240V and has good stability and compatibility with all Colorlight's control cards.

II. Hardware

2.1Interface

2.2.1 Interface functions

NO.	Interface	functions	Noted
1	Power switch	Power on /off	
2	Power supply	AC power supply interface (AC100-240V)	
3	Cascade output	For output cascade signal to the next T7H	
4	Cascade input	For input cascade signal from the last T7H	
5	Indicator lamp	Indicate sender working state	Red for power，green for signal
6	Output port A	RJ45， connect to the receiver card	The control area of port A and B can be separately set
7	Output port B	RJ45， connect to the receiver card	
8	Audio input	transmit the audio signal to the multifunction card	Multifunction card needed

9	USB	For T7H and PC communication	
10	DVI	DVI signal input	
11	Digital tube	Show the brightness adjustment levels of the sender	
12	Selection bottom	Used for brightness adjustment and assisted selection	

2.1.2 Indicator Light functions

Red: ON for power available

Green: ON/OFF quick flash (about 5-10 times/second) indicates that the data signal transmission is normal.

III. Hardware Connection Diagram

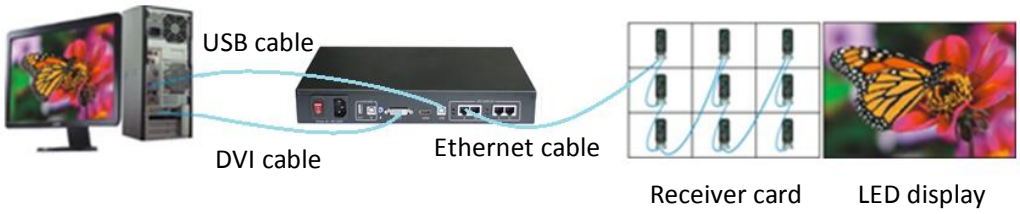

Fig.3-1

1 Support AC 100-240V (50Hz-60Hz) power supply

The red indicator Light: ON for power available

2 HDMI/DVI connection：

T7H has HDMI and DVI two video input interface, choose any one of them to input video according actual. If you need to switch video input mode between HDMI and DVI signal, can use HDMI and DVI cable to connect the computer and T7H at the same time.

3 Control signal connect

Connecting the computer and the T7H with dual-USB cable, this will be used for configuration of T7H

4 Ethernet Cable

Connect receiver cards and T7H by using Ethernet cable (Note: The Ethernet cable must be CAT5E or CAT6)

IV. Operating Environment

4.1 Computer configurations

- CPU Frequency >= 2.0GHZ;
- Host Memory >= 1G;
- Graphic card with DVI interface: Memory ⩾512MB.

Computer configuration can be adjusted according to the actual situation. Adjustment mainly aims at total pixels of LED display, complex playing program and whether playing HD video or not. Please note that the PC's graphic resolution should be equal to or more than LED display's.

4.2 USB driver installation

There are two methods for installation USB driver.

- Check 'USB Drive For Sending Card' when install the LEDVISION, as you can see in following picture.

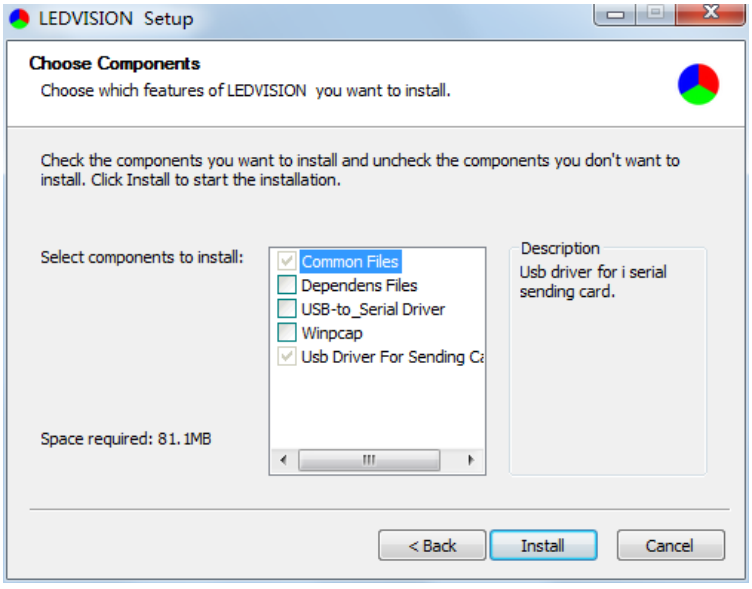

Fig.4-1

- Open the CD-ROM, find the file name of "USB driver for sending card" and

double click it to install.

4.3 Graphics Card Settings

Select duplicate or extend in graphics card mode, and their difference is that led display show the contents consistent with computer in duplicate mode, while in extend mode show only the window you want to display. (As shown in Fig.4-2)

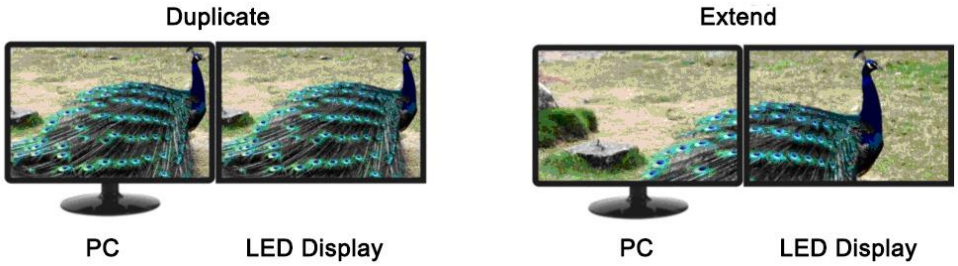

Fig.4-2

How to change the mode, there have different ways in different computer. For example, WIN 7/8 system and NVIDIA graphics cards, please read the following settings ways.

- The first way: Hold down the WIN and P keys at once, and select the mode as you want in the pop-up window

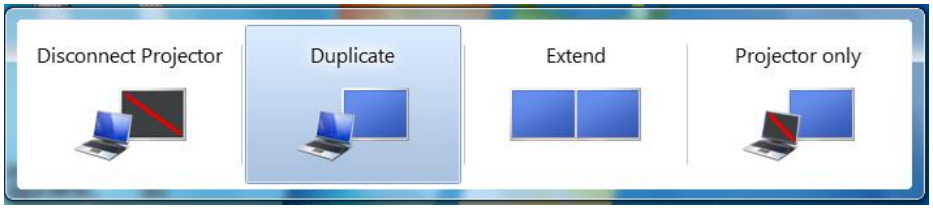

Fig.4-3

- The second way: Right-click and select “screen resolution” to enter the page of “modify the display appearance”; if your graphics card is not NVIDIA and cannot find the setting interface please refer to the description of the graphics card.

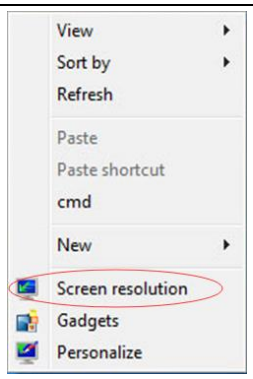
View
Sort by
Refresh
Paste
Paste shortcut
cmd
New
Screen resolution
Gadgets
Personalize

Fig.4-4

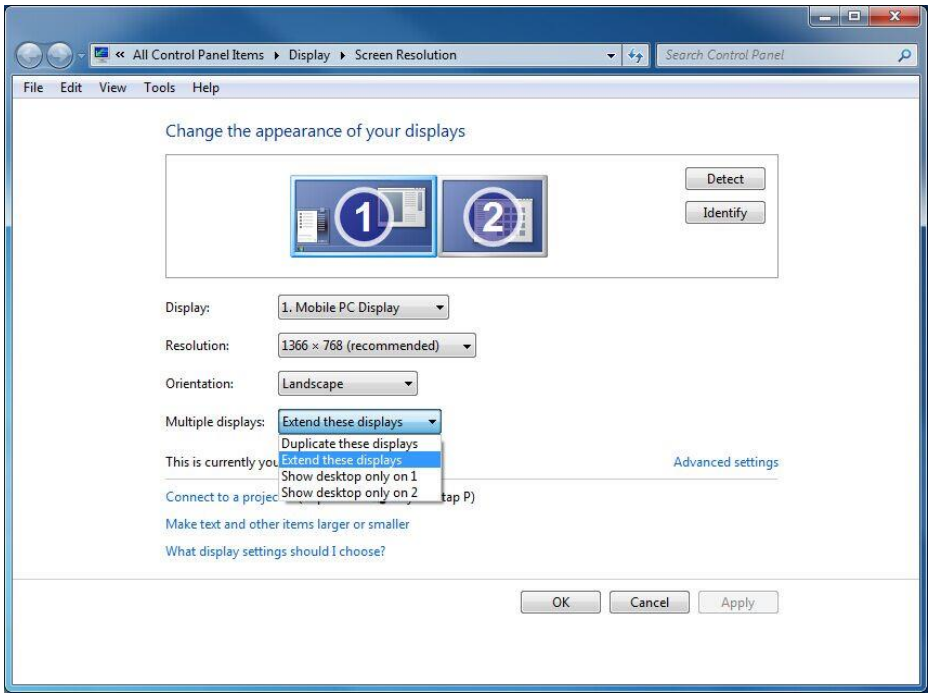
All Control Panel Items ▸ Display ▸ Screen Resolution
Search Control Panel
File Edit View Tools Help
Change the appearance of your displays
Detect
Identify
Display: 1. Mobile PC Display
Resolution: 1366 × 768 (recommended)
Orientation: Landscape
Multiple displays: Extend these displays
Duplicate these displays
Extend these displays
Show desktop only on 1
Show desktop only on 2
Advanced settings
Make text and other items larger or smaller
What display settings should I choose?
OK
Cancel
Apply

Fig.4-5

V. Parameter Configuration

First of all, please make sure the software is in Classic Mode before setting.

Click the “Setting” > “Software Setting” to enter the Software Management window (As shown in Fig.5-1), change the mode by using password: 168.

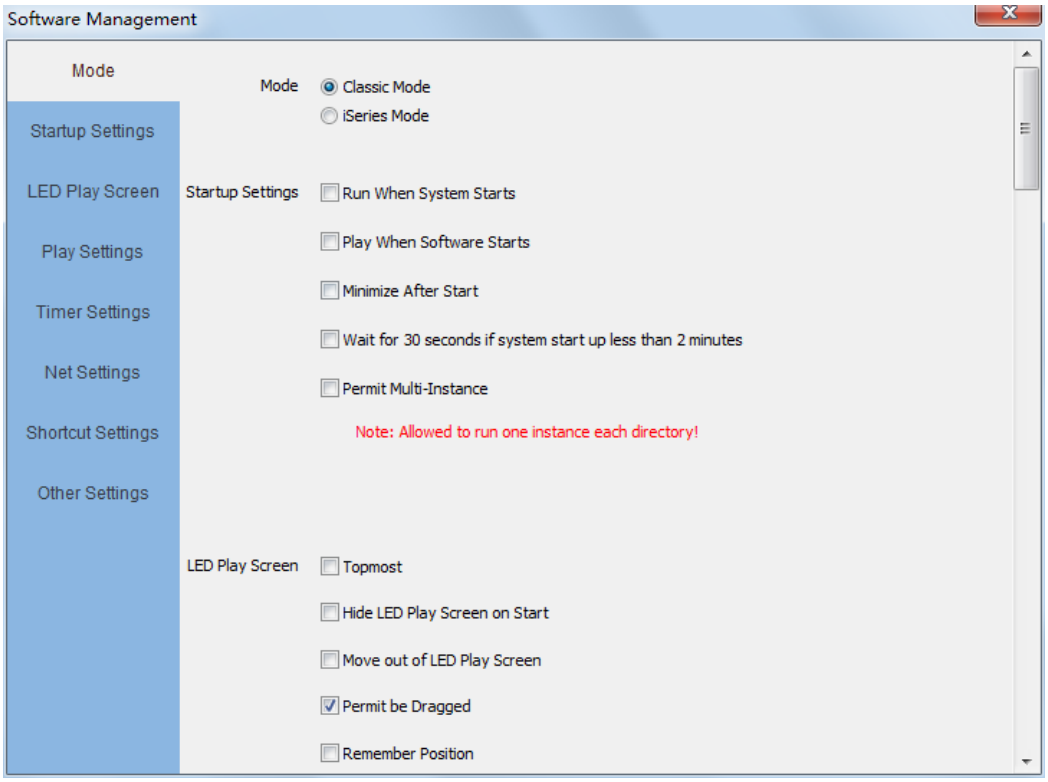

Fig.5-1

5.1 Hardware Connection Check

Please make sure that the hardware connection correct and software in Classic Mode before setting.

5.1.1 Detect Sender Cards

Run software, click the “Control” > “Screen Management” to enter the Screen Management window, the Sender Mode select “By Sender Card”, Click “Detect Sender Cards”, the sender cards information will show in the interface, (as shown in Fig.5-2) Please check the hardware connection if cannot detect sender cards.

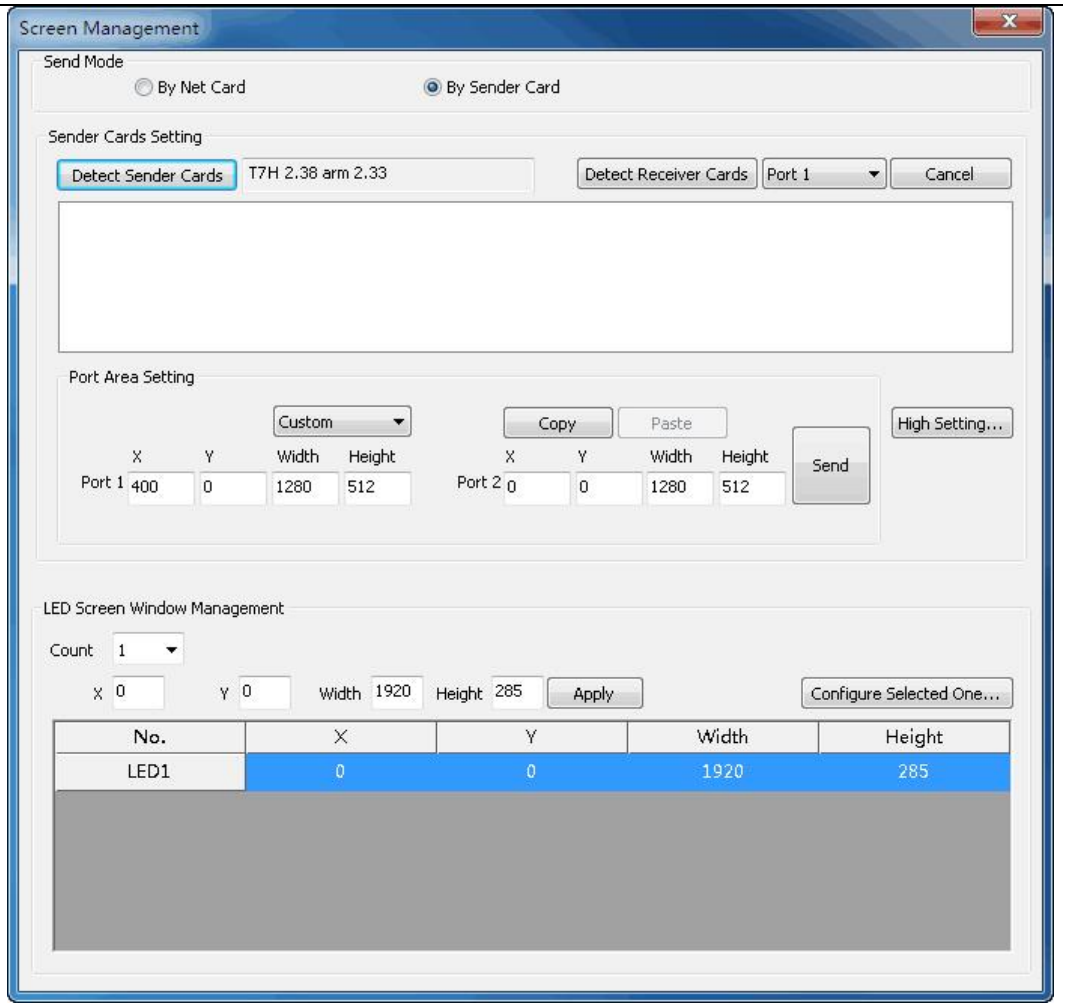

Fig.5-2

5.1.2 Detect Receiver Cards

Select network port and click “Detect Receiver Cards”, the software will automatic acquisition the Receiver (Receiving card) quantity for each network port of the sending card. Please check cable if the numbers of receiver card are inconsistent with actual. (As shown in Fig.5-3)

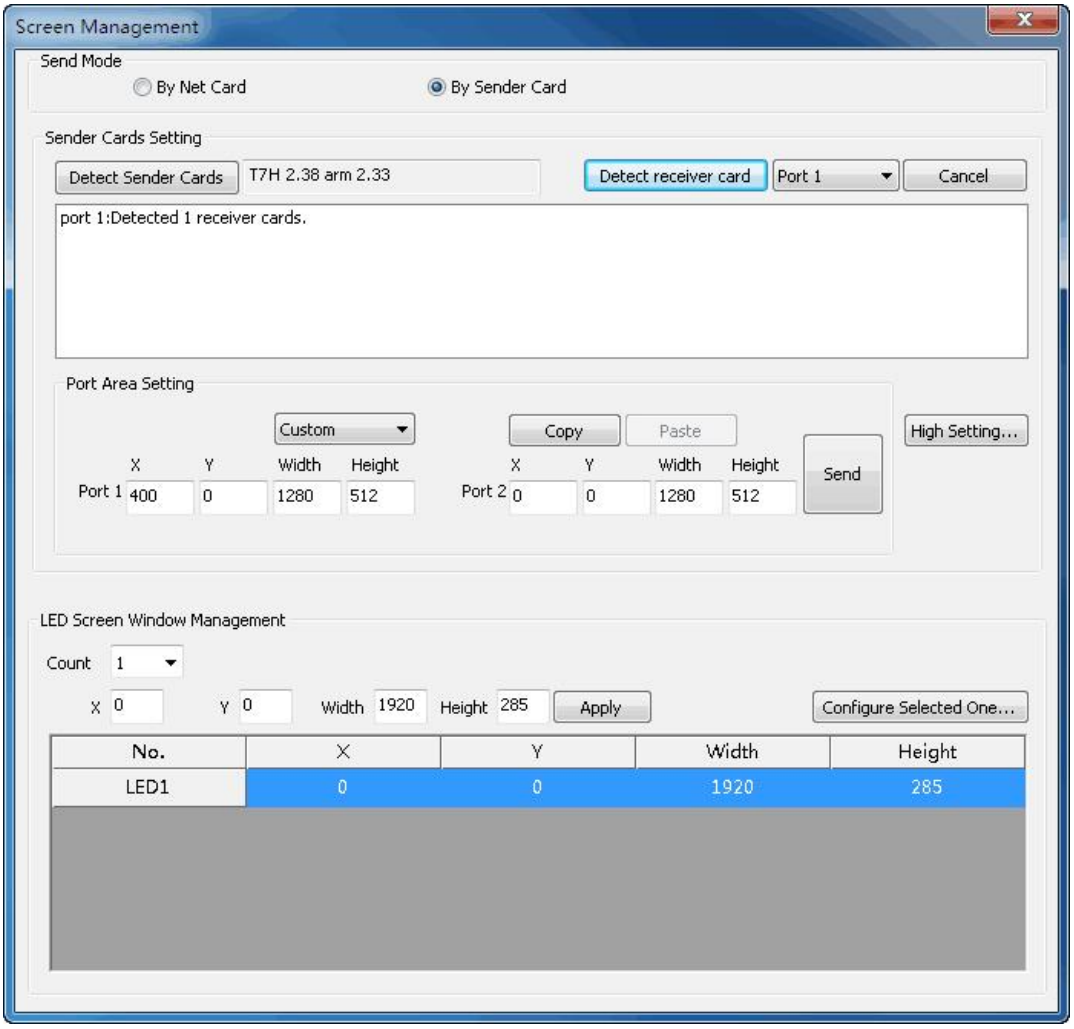

Fig.5-3

5.2 Setting Parameter

5.2.1 Sender Card Setting

Software offers a variety of common resolution to choose and it also can be set up custom. It should be note that the port maximum load capacity is 655360 pixels and the starting position consistent with the actual.

Click “Send” to save the parameter in receiving cards.

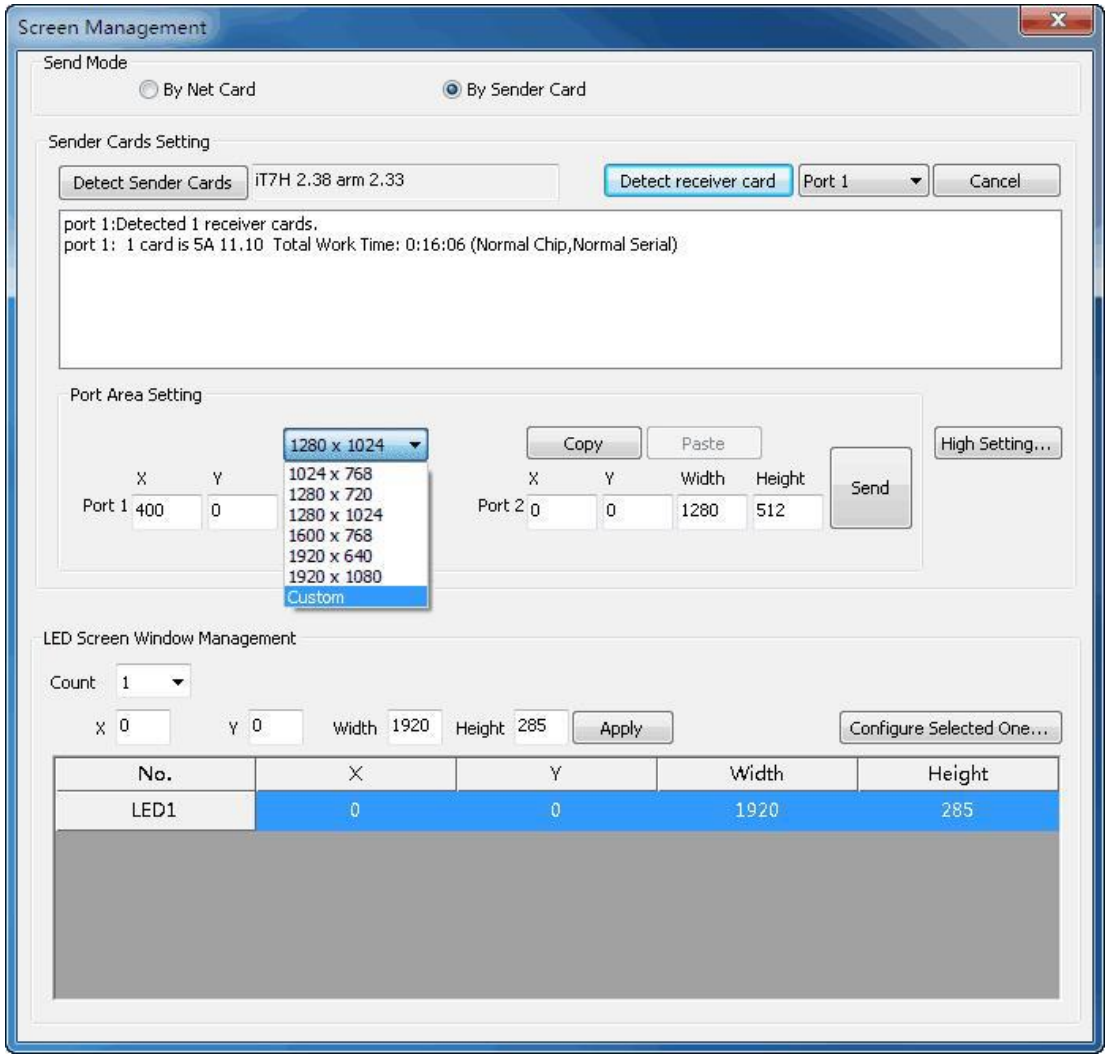

Fig.5-4

5.2.2 High Setting

In Screen Management interface, click “High Setting” to enter the High Setting-Send Card interface, the parameter can be set up according to your demand.

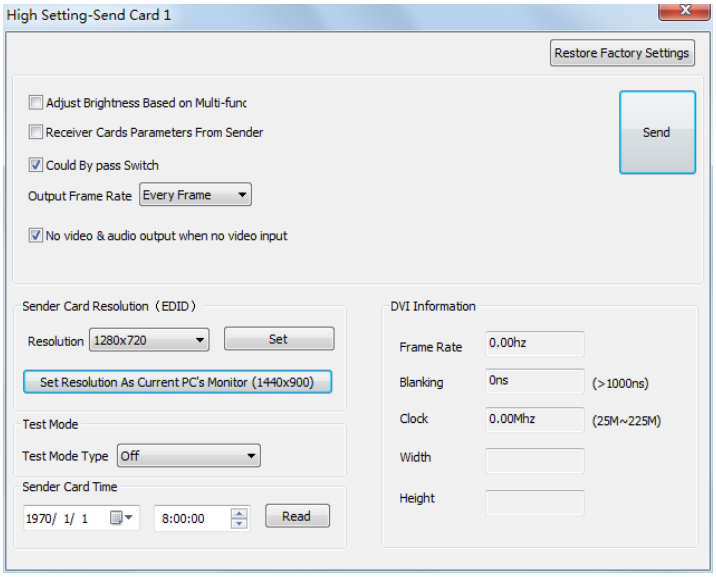

Fig.5-5

In general, users only need to set up the sender card resolution and network port control area in so many parameters.

- **Sender Card Resolution:** Send card resolution must be consistent with the graphics card or video processor output.
- **Network Date Types:** The software default is “Standard Frame”; please consult professional and technical personnel if you want changing.
- **Adjust Brightness Based on Multi-function:** Check it if you need multifunction’s light sensor automatically adjusts the LED screen’s brightness.
- **DVI Information:** The parameters automatically collect by the software from the sender card.
- **Could By Pass Switch:** When the gigabit switches as transfer equipment, then required checking this
- **Output Frame Rate:** the software default is “Every Frame”, please consult professional and technical personnel if you want change to “Every Other Frame”
- **Forbid output video and audio when no signal:** After check this item, the LED display will turn black and no sound output when no video signal input.

5.2.3 Receiver card parameters setting

Click “Configure Select One...” to enter LED setting interface by using password 168.

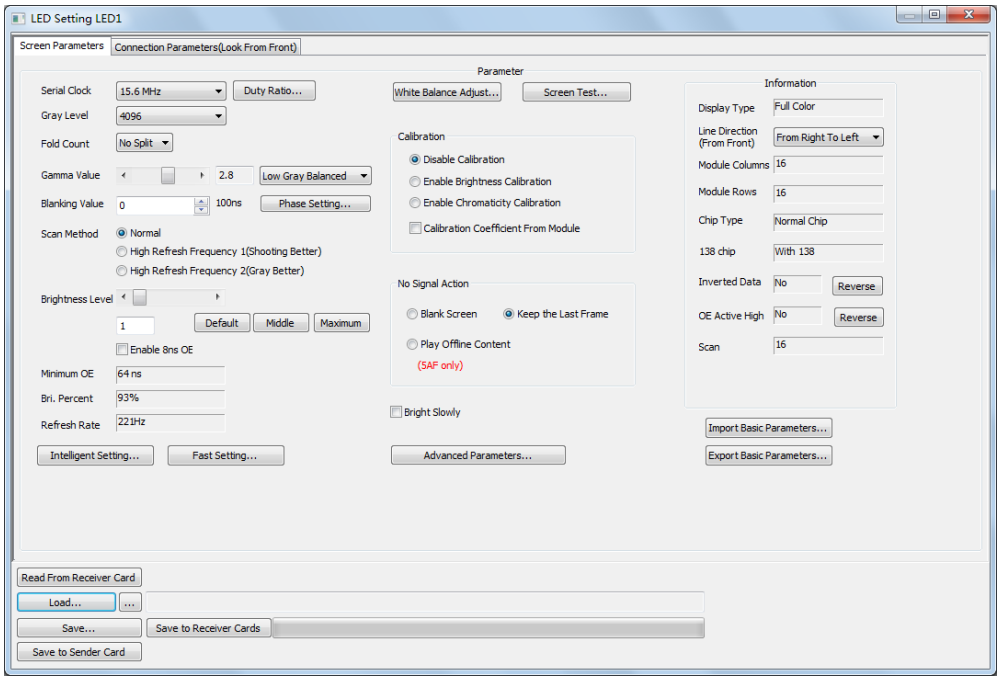

Fig.5-6

Need to debug of common parameters：

- **Serial clock：** Control the serial clock frequency of the driver chip on the display pane. In general, the value set up to 17.9MHz if the LED display is full color.
- **Gray Level：** Support arbitrary adjustment from 0~65536 level gray. Indoor full color LED display adopt 4096 level gray
- **Scan Method：** The method of high refresh frequency 2 means that scan gray firstly, the refresh rate is 8 times compared with normal method, which can satisfy the customs high refresh requirement.
- **Gamma value：** Gamma value is a key parameter for the LED display; it will affect the display effect. Gamma value set up from 2.2 to 2.8 in generally.
- **Blanking value：** We can appropriate to increase the blanking value when the LED display screen appears trailing.

5.2.4 Connection Parameters (Look From Front)

In Classic Mode, LED screen need set up the Receiver (Receiving card) connection relationship for each network port of the sending card.

1) Receiver Lay out Setting

Set how many Receiver (Receiving card) one port managers in Row Count and Col Count (3*3 as an example), how many pixels one Receiver (Receiving card) manages in Width and Height (64*64 as an example), in the software interface right you will see led display mapping area (Viewing from the front of led display). (As shown in Fig.5-7)

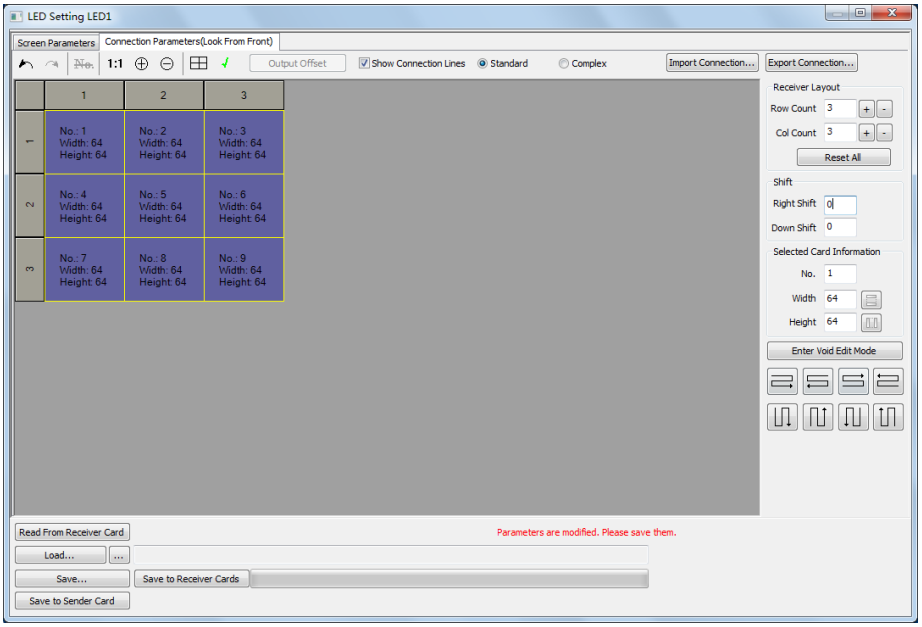

Fig.5-7

2) Receiver Card Parameters Setting

Configuration Receiver (Receiving Card) connection pattern for each port individually if more than one port are used. There are two methods to set up.

Note: Set up connection Receiver (Receiving Card) must be based on fact.

- **Use Mouse Select One By One**

Based on the actual connection of the Ethernet cable, click the Receiver (Receiving card) one by one until the last one for this network port loads, connection lines will show in the display mapping area (Viewing from the front of led display) (As shown in 5-8)

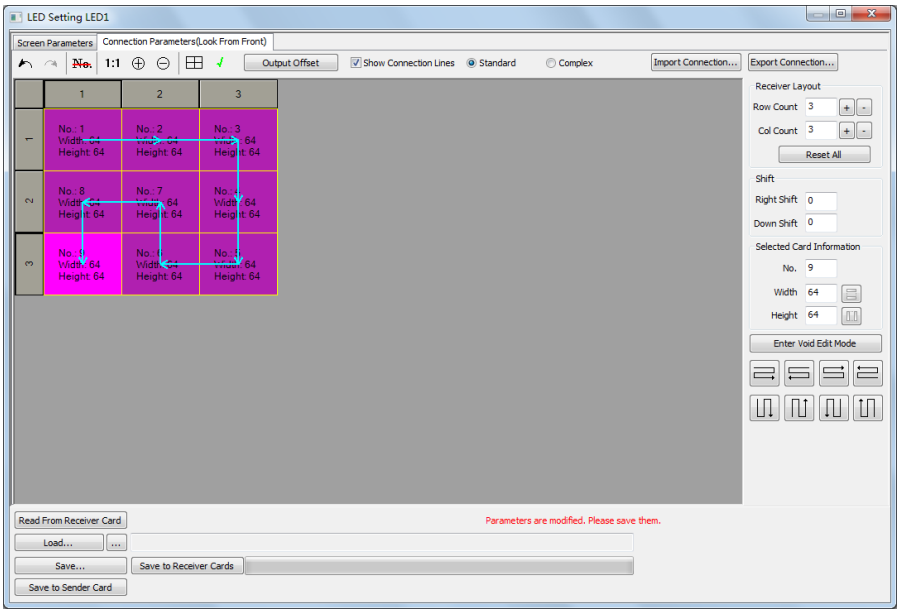

Fig.5-8

- **Connection Pattern**

Select the connection pattern based on fact, and then the connection line will show Receiver (Receiving card) in the display mapping area. (As shown in 5-9)

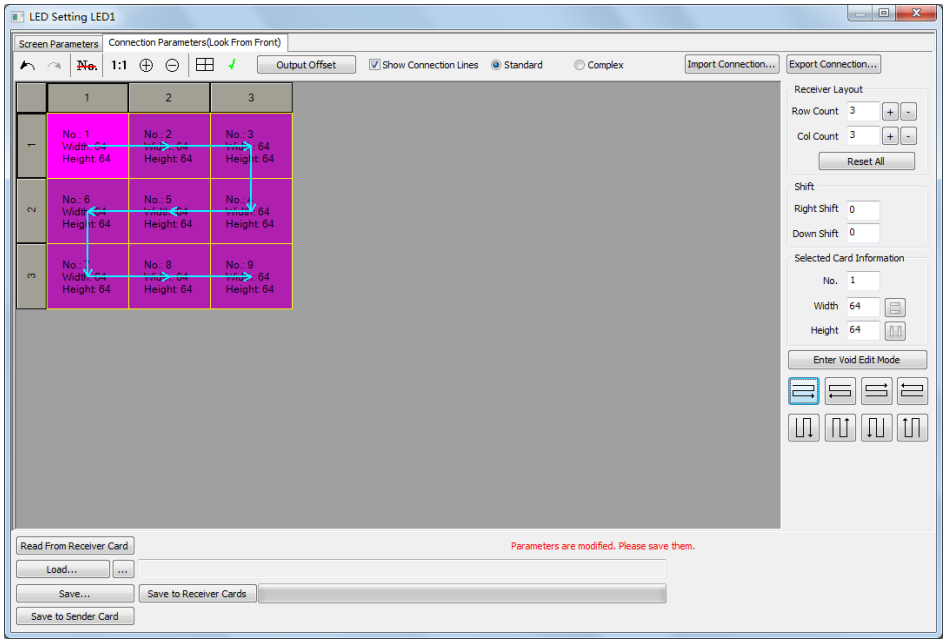

Fig.5-9

If some Receiver (Receiving card) manage different quantity of pixels from others, specific Receiver (Receiving card) Size in Width and Height can be set individually.

3) Save to Receiver Cards & Save to Sender Cards

The first step: Click “Save to Sender Cards” > select port, then send the parameter to sender card

The second step: Click “Save to Receiver Cards” > select port, to send the parameter to receiver cards of this port load, at this moment, this port load all cabinets should display normally (the picture between cabinets is not continuous but also as normal)

The third step: Set up the next port load receiving cards parameter and connection type.

Please contact display manufacturer of engineering and technical personnel if display abnormally.