document content	HD Sign LED Control System Operation Manual
Version	English
Page range	1-49

# HD S i gn LED Control System Operation Manual

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# **Chapter 1 Overview**

#### 1.1 Functional features

"HD Sign " is a single- and double-color software launched by Grayscale Technology Co., Ltd. in 2024. HD Sign is no longer a single- and double-color software named after the year. In order to facilitate customer selection, it integrates some duplicate controllers and controls the range . The update is more flexible, enough to cope with the current trend of taller, longer and diversified bar screens.

The overall interface of the software continues the style of simple operation, powerful functions, easy to learn and use, and supports graphics and text (Excel, JGP, BMP, GIF, SWF, video, text, animated characters, etc.), text, 3D characters, animated characters, Excel, Time, timing, counting, lunar calendar, temperature and humidity, prayer, weather, can support multiple controls such as serial port (including 232 and 485), network port, Wi-Fi, U disk, etc., which can meet the applications of different occasions.

### 1.2 Operating environment

#### operating system:

Chinese and English (the operation interface supports Arabic, Bulgarian, Chinese, English, French, German, Indonesian, Hindi, Iranian, Japanese, Korean, Mongolian, Polish, Portuguese, Romanian, Russian, Serbian, Spanish, Thai, Traditional Chinese, Turkish, Vietnamese 22 languages) Windows2000/XP/Win7/Win8/Win10, etc.

# **Chapter 2 Installation and Uninstallation**

#### 2.1 Installation

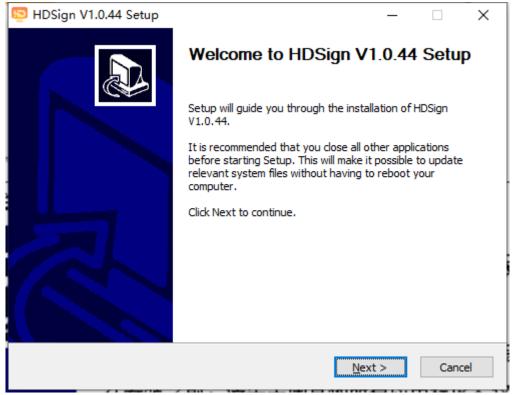
below

"HD Sign " software installation is very simple. The operation is as follows: Find the software installation file HDSign V1.0.44.exe and double-click it

HDSign V1.0.44.exe

You will enter the software installation wizard, as shown





Follow the on-screen prompts (next step) and complete the operation to complete the installation.

the "HD Sign " software is successfully installed, the "HD Sign " program group will appear in [Start]/[Programs] . Click HD Sign to run HD Sign . You can also click The HD Sign shortcut on the desktop opens the software.

#### 2.2 Uninstall

"HD Sign " software package provides a complete uninstall function, and users can easily delete all documents, program groups and shortcuts in " HD Sign " . Users can choose to uninstall HD Sign in the [Start]/[Programs]/HD Sign program group to complete the uninstallation of the software .



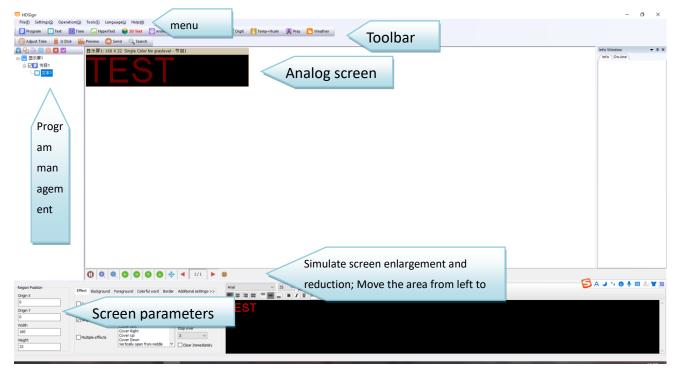
# **Chapter 3 Detailed explanation of tool usage**

#### 3.1 Software main interface

the "HD Sign " software as shown below

Display screens can be managed in groups;

The toolbar can be divided into two columns or displayed as one column; The information window can prompt whether the current command is sent successfully, and can also display the current online device.



#### 3.2 Title bar

Used to display the software name;

#### 3.3 Menu bar

Contains File-Settings-Operation-Tools-Language-Help and other options

#### 3.3.1 File menu

five options such as new display screen, save, save as, open, and exit, as shown in the figure:



+ **N)**: Used to create a new display screen. HD Sign can manage screens without restrictions and can also be managed in groups (check "Add Group" in the system settings);

Save (Ctrl+S): used to save the current display file;

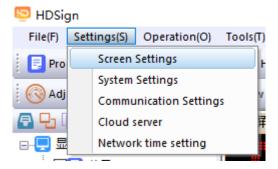
Save as: used to save the current display file in a customized way

**Open**: Import the saved display screen file into the software, no need to create a program again;

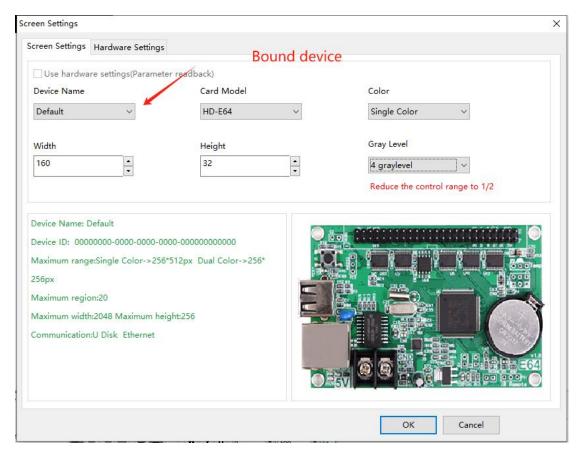
**Exit (E)**: Close the H DSign software.

# 3.3.2 Setting menu

It includes screen parameter settings, system settings, communication settings, cloud server, and network time settings as shown below:

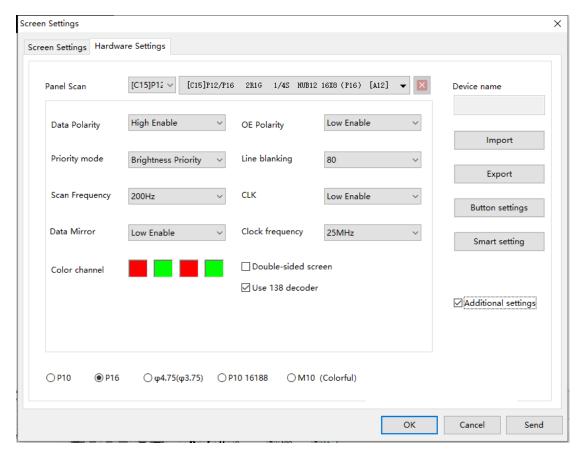


**Screen parameter setting**: used to bind the basic parameters of the device and display screen, as shown in the figure;

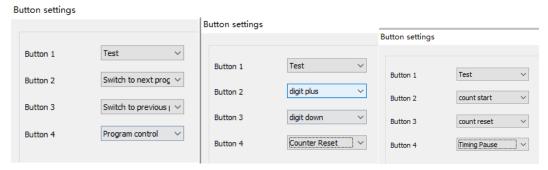


In the first step, if the control card has been displayed normally, you only need to change the screen width, height, color and grayscale;

If there is no normal display on the screen, hardware settings need to be performed. The second step is hardware settings. For regular screens, please select common smart settings. For non-conventional screens, please perform smart settings (smart settings must be performed after the device is found, and U disk cards cannot be used for smart settings).

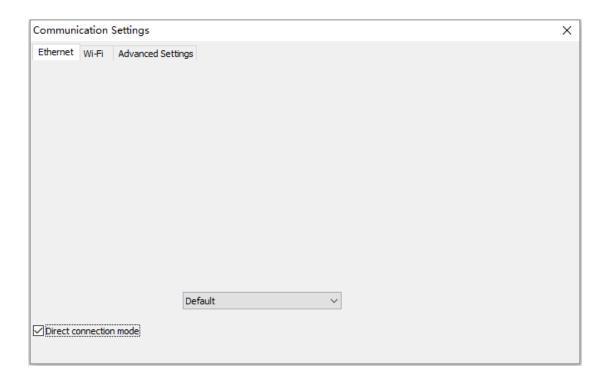


The button setting is in the hardware setting interface and is used to adjust the functions of the four buttons, as shown in the figure below:

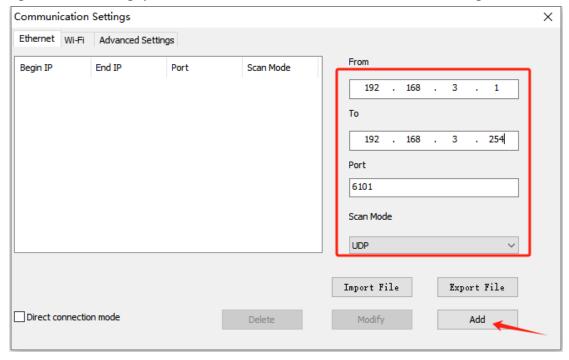


**Communication settings**: Used to modify the communication settings when connecting multiple cards.

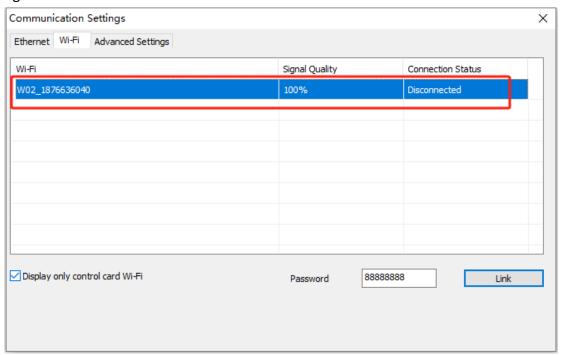
1. The default Ethernet is single-card direct connection mode, that is , when only one card is connected to the computer, there is no need to change any settings. As long as the network cable is connected normally, the device can be found .



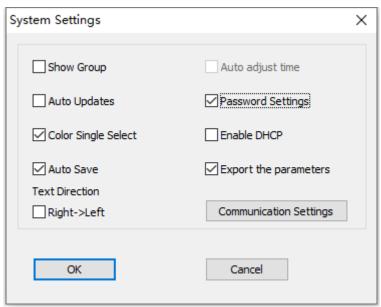
2. When the stand-alone direct connection mode is not checked, it is applicable to situations where the control card and the main control computer are not in direct connection mode, and the control card and the main control computer are not in the same network segment. You need to add the IP address of the network segment where the control card is located to the software. , the operation is as shown in the figure. After adding, you can find the card in the 192.168.3.\* network segment.



4. Wi-Fi card interface, used to connect to the Wi-Fi signal of the control card. The default password is 88888888. There is no need to enter it manually, as shown in the figure below:

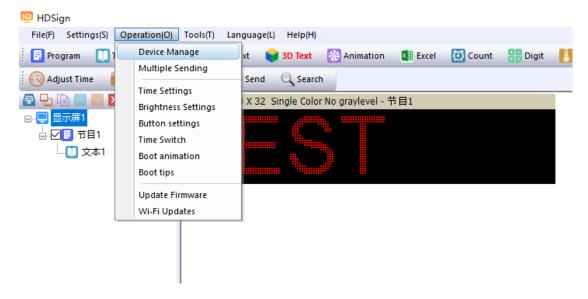


**System settings**: used to set system parameters (not recommended to be changed). as the picture shows:

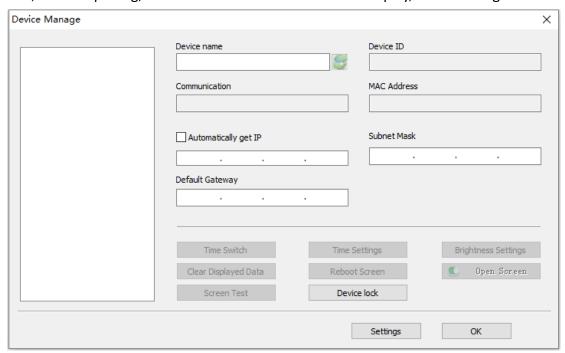


#### 3.3.3 Operation menu

Including device management, cluster sending, time settings, brightness settings, button settings, scheduled power on and off, startup screen, startup prompts, firmware updates, and Wi-Fi updates. As shown in the picture



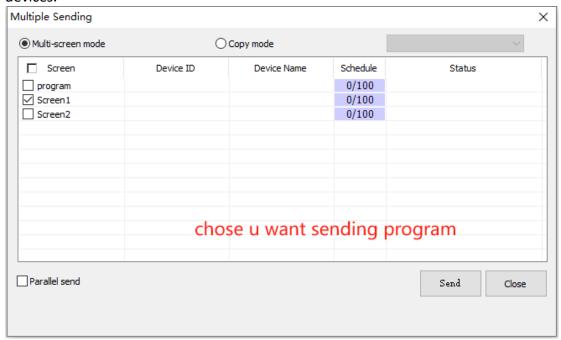
**Device management:** Used to modify the device names of all devices that can be found, modify the IP address of the network port card, and also manage the clear display data, time settings, brightness settings, scheduled power on and off, display test, screen opening, and restart of the current device. Display, Wi-Fi settings.



**Cluster sending**: used to send multiple display files; there are two modes: multi-screen mode and copy mode; all found devices can be used, including network

port cards, serial port cards, and Wi-Fi cards.

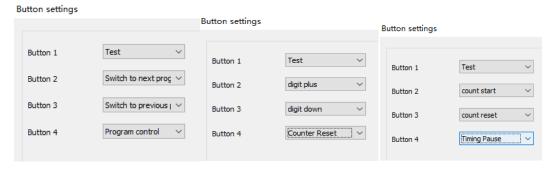
- 1. Multi-screen mode: It is required that the device name has been selected in the screen parameter settings, and each screen is bound to a device.
- 2. Copy mode: Select the display to be sent and send the display to all found devices.



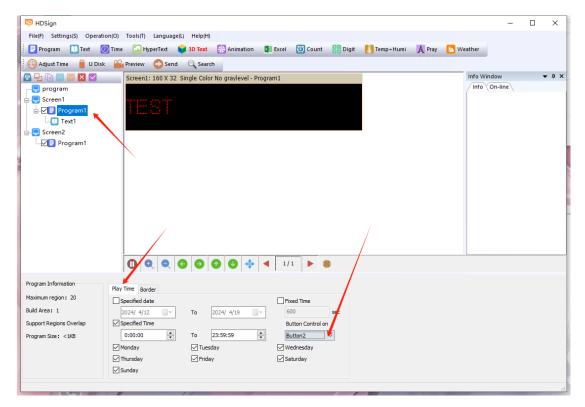
**Time setting:** Set the time on the control card, which can be the current time of the system, past or future time.

**Brightness settings:** divided into three types: customization, automatic adjustment, and adjustment by time period.

**Button settings:** divided into button 1, button 2, button 3, button 4 settings and program play mode.



Play mode: button control, display screen → program → play time → button control → select the corresponding button, as shown in the figure:



Note: The control button controls the switch to select normally open or normally closed.

**Scheduled power on and off**: Set the screen on and off time of the control card. **Splash screen**: Enable the splash screen, click Send after loading the file, or export the file to a USB flash drive.

**Firmware update**: used to upgrade the control card.

#### **3.3.4 Tools**

Contains network testing, animated character background, information window, program appearance, and editing language.

#### 3.3. 5 language menu:

Includes Arabic, Bulgarian, Chinese Simplified, English, French, German, Indonesian, Hindi, Iranian, Japanese, Korean, Mongolian, Polish, Portuguese, Romanian, Russian, Serbian, Spanish, Thai, Chinese Twenty-two languages including Traditional Chinese, Turkish, and Vietnamese are used to switch the operation interface in different languages.

#### 3.3.6 Help menu:

Used to check the HD Sign software version number and update the new version of the software .

#### 3.4 Toolbar

It includes tools such as programs, graphics, texts, 3D characters, animated characters, Excel, time, timing, counting, temperature and humidity, lunar calendar, prayer, weather, time adjustment, USB disk, preview, and sending, as shown in the figure:



**Program:** used to create a new program (the program is the sub-directory of the display screen);

Global program: only used for cross screen;

**Graphics and text:** Used to create a new graphic and text area. You can add pictures, GIFs, animated words, SWF, text, videos, and Excel. When only adding pictures, you can edit special effects on multiple pictures together, and support regional backgrounds;

**Text:** Text can support 90  $^{\circ}$  , 180  $^{\circ}$  , 270  $^{\circ}$  rotation, and supports regional background;

**3D** characters: used to create a new 3D character area, supports 90  $^\circ$  , 180  $^\circ$  , 270  $^\circ$  rotation, supports regional picture background, foreground, and colorful characters.

**Animated words:** Used to create new animated word areas. It can create hollow words, font strokes, and display a variety of special effects. Multiple special effects can be superimposed and used. It supports picture backgrounds and regional backgrounds;

**Excel:** Add Excel area, support zooming in and out, support horizontal and vertical screenshots, and support regional background;

**Time:** The digital clock and the dial clock are merged together, AM/PM display is added to the dial, and regional backgrounds are supported;

**Timing:** supports four modes: countdown, clockwise, button countdown, button clockwise, supports cycle timing, and supports regional backgrounds;

**Counting:** You can count from small to large and from large to small, and support regional backgrounds;

**Temperature and humidity:** Temperature, temperature and humidity, and PM2.5 require different sensors to display the current ambient temperature or temperature and humidity or PM2.5 (a temperature sensor, *temperature and humidity* sensor, or PM2.5 sensor *is required* );

Lunar Calendar: Can display heavenly stems, lunar calendar, solar terms, festivals,

and supports regional backgrounds.

**Prayer:** Display prayer time.

**Weather**: Display weather (temperature, wind speed, wind direction, PM2.5, weather)

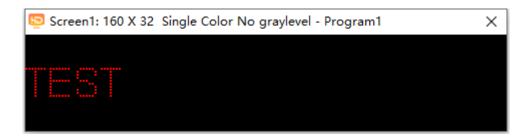
**Time correction:** correct the system time (adjust the control card clock to synchronize with the computer);

**U disk:** Special for U disk card, the currently displayed file and time are saved to the U disk (U disk update);

**Preview:** Preview the current program or global preview of the display. When selecting a program, it is a preview of the current program; when selecting a display screen, it is a global preview, which can be consistent with the display effect on the actual display screen;

**Send:** Used to send the current display file.

# 3.5 Analog Display



Please note: There is a row of toolbars below the simulated display screen. Proper use can help you edit the display screen file more conveniently (including: preview/pause preview, zoom in/out of the simulation window, move the current area left and right, globalize the area, display Tools such as turning pages of screen content, simulating display in the upper left corner of the display screen, etc.)

## 3.6 Display property bar

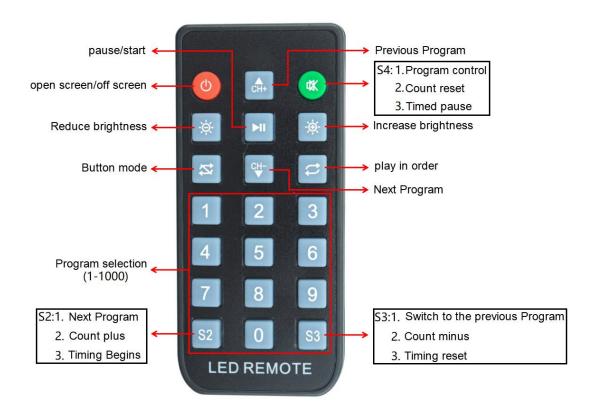
This column can be used for brightness settings/timer on/off settings, etc. A newly added real-time area can be used to specify any area on the display screen to display real-time pictures in any size. A secondary development kit is required.



**Current screen parameters:** changed according to screen parameter settings; **Function navigation:** including screen parameter settings, communication settings, scheduled power on and off, screen on, screen off, real-time area, playback, pause and other functional navigation.

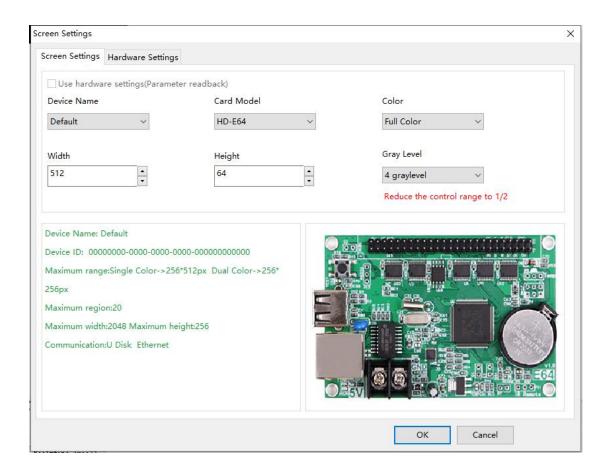
#### 3.7 Use of remote control

An infrared probe needs to be welded, and the use of the remote control is as follows:

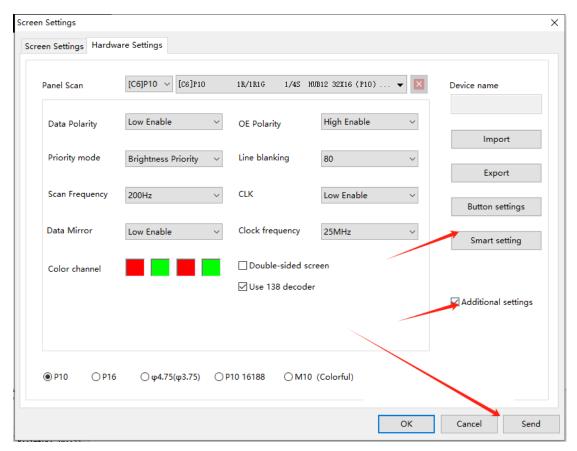


# 3.8 How to set up smart settings

a. Select the device in the screen parameter settings and select the color of the module

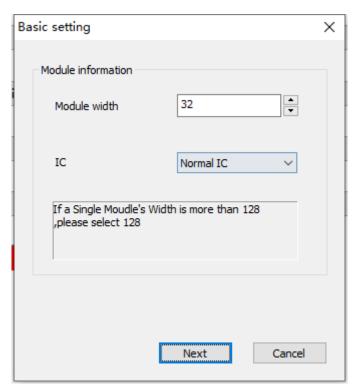


b. Perform smart settings. In the commonly used smart settings, if there are parameters for the unit board you are currently using, you can directly select them and click Send, as shown in the figure below:



If you cannot find the unit board you are currently using in the common smart settings, you can refer to the following methods to make smart settings.

(1)Set the width of a unit board

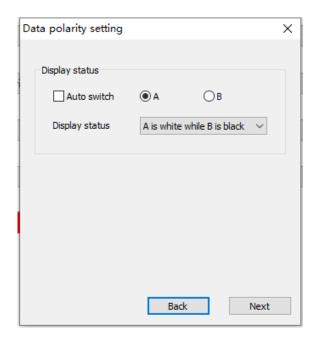


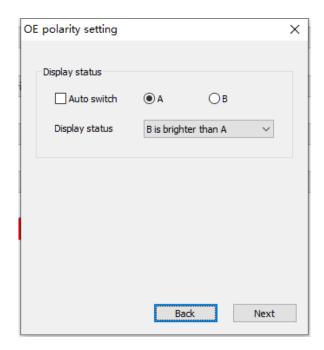
(2)Select the data polarity and OE polarity of the unit board.

When A is on and B is off, it means that the data polarity is low and valid; when B is on and A is off, it means that the data polarity is high and valid;

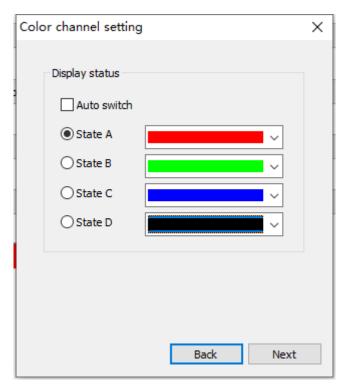
When A is brighter than B, it means that the OE polarity is low and effective.

When B is brighter than A, the OE polarity is high and effective. If it does not change, it means there is no 138 decoder.

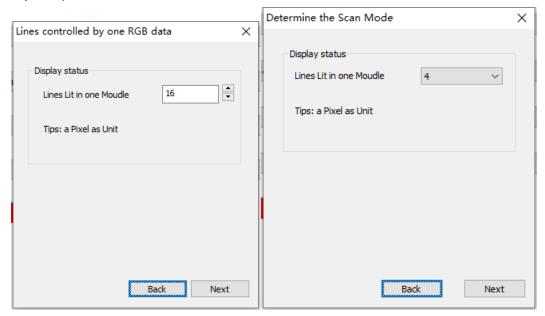




(3) . The color channel is selected according to the actual situation of the display screen. There is no such option for single primary colors, and only states A and B for dual primary colors .



(4) Determine the scanning method of the unit board. As shown in the figure, 16/1=16, it can be seen that the current unit board is 16 scans.

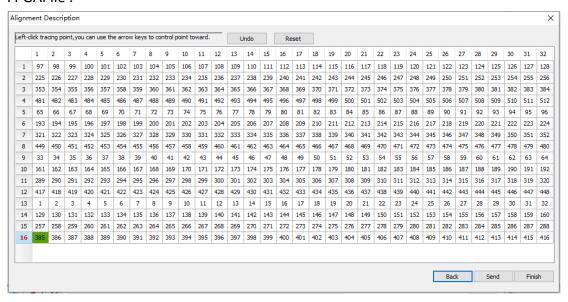


(5) . Determine the way the lights turn on based on the lighting conditions of the unit board.

To trace points, trace points according to the position of the first light on the screen. If you make a mistake in tracing a step, you can click "Back One Step" to trace the point again, or you can reset everything and start tracing points again. After the point tracing is completed, click Save file.

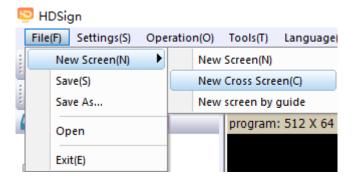
The default saving method is customized and is saved in the directory where the program is stored C:\Users\Administrator\AppData\Roaming\HDS i gn\

#### FPGAFile.

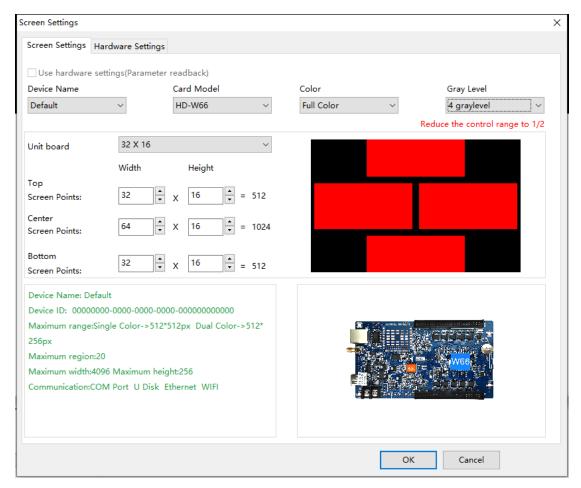


#### 3.9 Setting method of cross screen

Create a new cross screen, as shown in the figure:



The module selection and basic settings of the cross screen refer to the screen parameter settings above. The size of the cross screen is divided into three parts, top, middle and bottom.

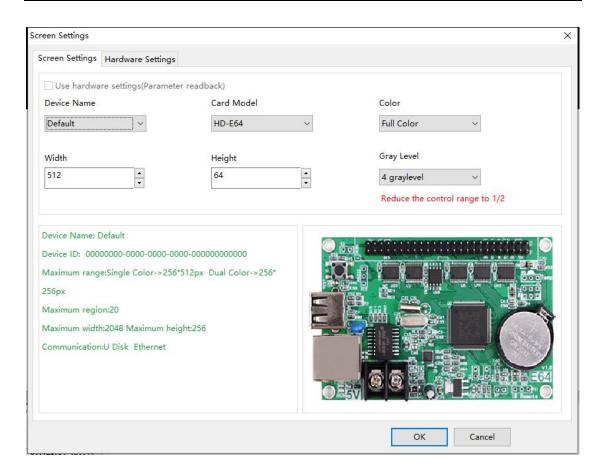


The cross screen can create global programs and programs. Global programs are programs that display one area as a whole at the top, middle, and bottom. When you create a program, you can display programs in three areas.

# **Chapter 4 Display Program Creation Process**

# 4.1 Create a new display screen file (first level content)

Method: Click File-New Display (password is 168), and the setting page will pop up as follows:



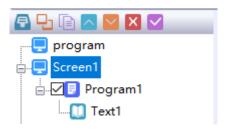
If there are correct parameters in the control card (text is displayed normally), check "Use Hardware Settings", select the device, and click OK to complete the establishment of a display screen.

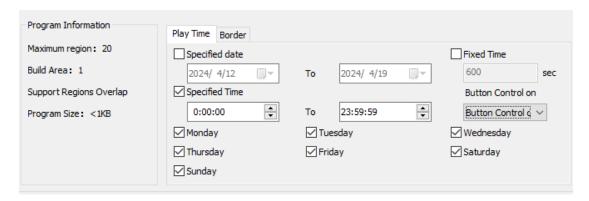
If there are no correct parameters in the control card (no text is displayed normally), remove "Use Hardware Settings", select the device, select the color, set the width, height, and gray level; then click to enter the hardware setting interface and set the point drawing method of the display, that is Commonly used smart settings, if not, please connect the network cable, serial cable or Wi-Fi to perform smart settings.

# 4.2 Create new programs ( second level content, one display screen can create 1,000 programs )

Method: Click the program button on the shortcut bar ( *provided that a display screen is selected first* ) as shown in the figure:

Create a new program as shown below (including options such as border-time period settings)

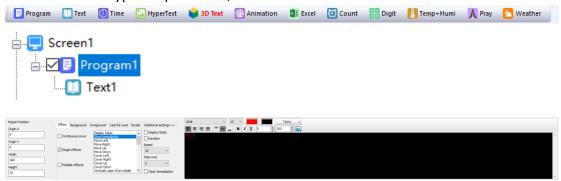




Note: Different attributes can be set for each of the 1000 programs. These attributes include playback time, fixed-length playback, and border settings.

# 4.3 Create new partitions (third level content, 20 partitions can be set for each program)

Method: After selecting the program first, click on graphics, text, time, timing, counting, temperature and humidity, animated characters, lunar calendar, etc. to create different types of partitions, as shown below



# 4.4: Program production completed

After the first, second, and third steps above, we have completed the creation of a display screen file. If we need to create multiple programs, we only need to repeat the second and third steps above to create multiple programs. Yes ( can be played on the same display screen ); if you need to use one software to control multiple display

screens, you need to create multiple display screen files and repeat the first, second, and third steps;

After the program production is completed, it can be saved (the default saving path is: C:\Users\Administrator\AppData\Roaming\HDSign\ProjFile, or it can be saved in the specified directory through the file menu).

The simulation screen can view the dynamic graphics of each program in real time and set the display mode. If you are satisfied, you can use the send button to send the content to the display screen.

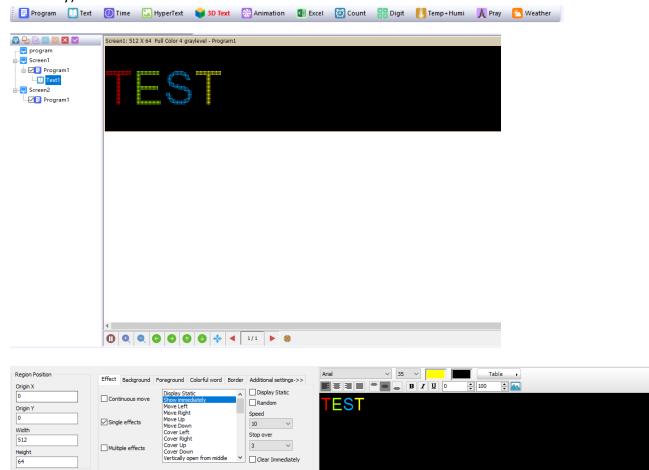
# **Chapter 5 How to display different content**

# 5.1 Text display

For pure text content display, we can use the text area to meet the requirements. The text supports left rotation, right rotation, and inversion. You can customize the table, add borders, add backgrounds, and support check effects.

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program;

Click the text and a text area will appear (coordinates, length, and width can be set freely)

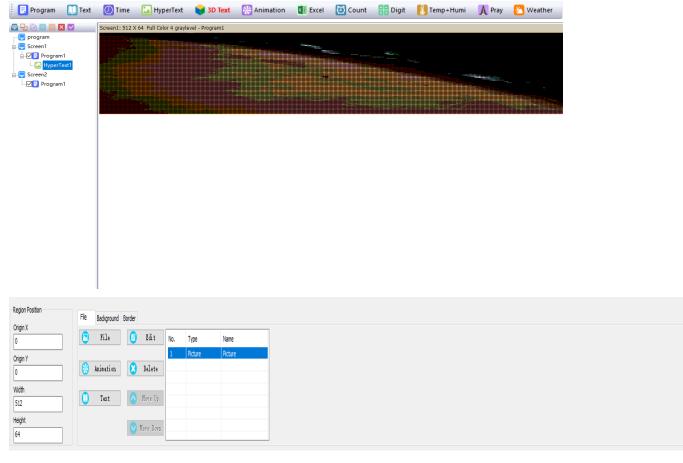


HD Sign 's software editor is powerful and can modify individual text, including left and right centering, top and bottom centering, word spacing, line spacing, etc.

### 5.2 Graphic display

If you want to display a LOGO or picture on the display (only in JPG, BMP, PNG, GIF, etc. formats), how should you set it up? Proceed as follows

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; Click on the image and text, and the image and text area will appear (the coordinates, length, and width can be freely set). Just add the image to be displayed in the file list below, as shown below



Pictures can be edited together with multiple pictures, only pictures. Supports the addition of videos, Excel, animated words, SWF, GIF, and can also be added to graphics and text.

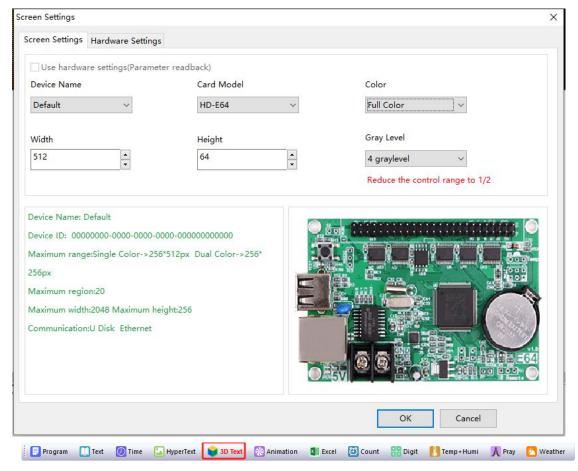
#### 5.3 3D characters

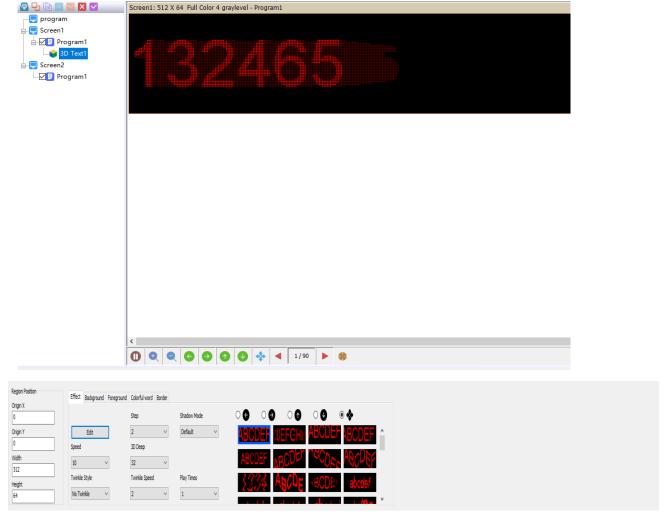
Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; the gray scale of 3D characters must be set, otherwise the effect of 3D characters will not be displayed.

Click on the 3D character, and the 3D character area will appear (the

coordinates, length, and width can be freely set), the special effects interface, and editing. Click to enter the editor and edit the content; the default step size is 2. The larger the step size, the smaller the memory occupied by the program., on the contrary, the larger it is; the 3D depth defaults to 32, the greater the 3D depth, the longer the shadow of the 3D characters displayed on the display, and the program takes up more memory, otherwise the smaller it is; shadow mode: default, gradient, custom; as shown

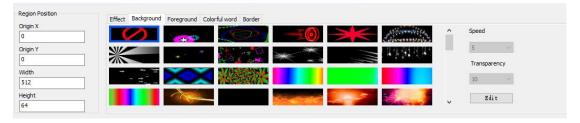
below





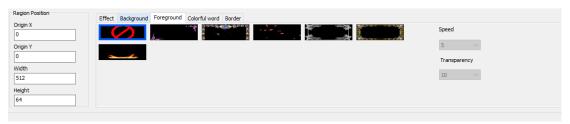
Background, adjustable speed, transparency, editing, editing can add background images, as shown

#### below,



The prospect is as shown

#### below



Note: The 3D character area occupies a large amount of memory. The factors that affect the memory size occupied by the 3D area are: screen width and height,

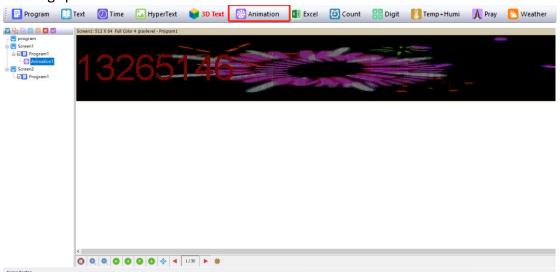
color, grayscale, step size, 3D depth, special effects, etc.

# 5.4 Animated character display

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; Click the animated word, and the animated word area will appear. Just add the picture to be displayed in the file list below, as shown below Animated characters can display picture backgrounds, and can also support regional

background overlay display. Special effects can be combined to display new and more

dazzling special effects.



## 5.5 Excel display

Display an Excel table on the display screen. The steps are as follows:

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; Click Excel and the Excel area will appear. Just add the Excel file to be displayed in the path below, as shown below

Excel shows that Excel needs to install the full version of Microsoft software to load properly. You can take horizontal or vertical screenshots.

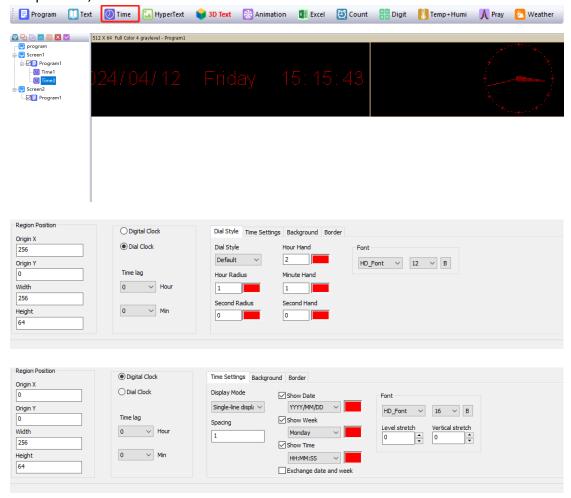




## 5.6 Time display (perpetual calendar time and dial)

The time display on the display screen is similar to text and graphics. Just click on the time area. The steps are as follows

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; Click the time, and the time area will appear. The setting is relatively simple, just set the position, as shown below

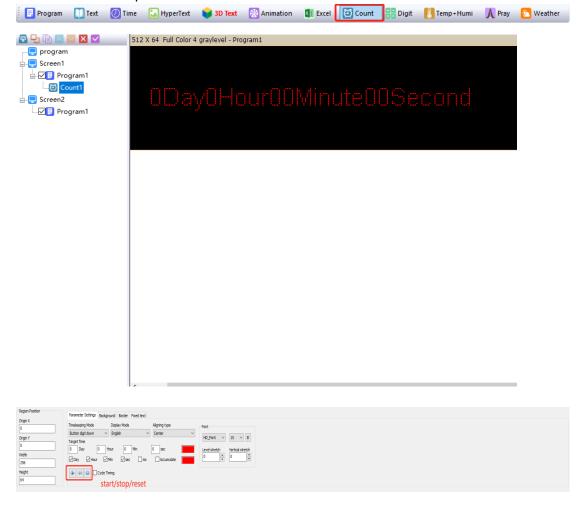


# 5. 7 order/countdown display

Display shows countdown/countdown, button countdown/countdown

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; Click the timing and the timing area will appear (the coordinates, length and width can be freely set) as shown in the figure

Supports cycle timing, that is, it automatically resets and starts again after the countdown is completed.

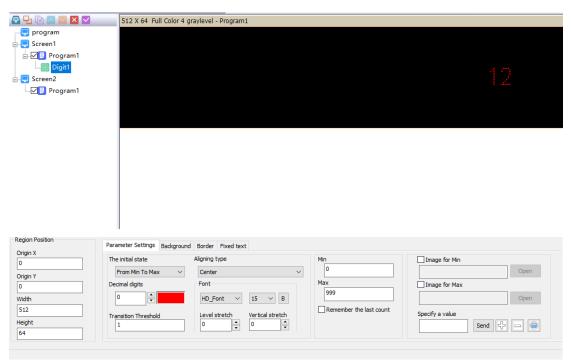


# 5.8 Count display

The display shows the count and the steps are as follows:

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; Click Count and a counting area will appear (the coordinates, length and width can be set freely) as shown in the figure





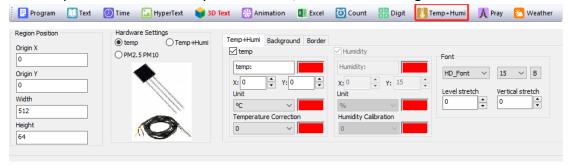
The initial state is whether to choose from large to small or small to large. How much the jump threshold increases or decreases, you can add pictures of the minimum and maximum values. The maximum value that can be set is 9999999, with up to three decimal places.

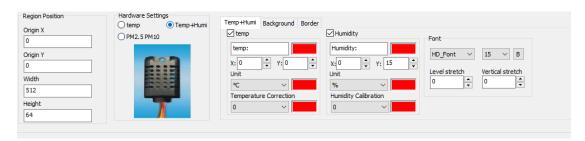
# 5.9 Temperature or temperature and humidity or PM2.5 display (need to purchase an additional sensor)

The display shows the current ambient temperature or temperature and humidity or PM2.5

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program;

1. Click Temperature and Humidity to display the temperature and humidity area (coordinates, length, and width can be set freely). The sensors used for temperature and temperature and humidity are different, as shown in the figure:



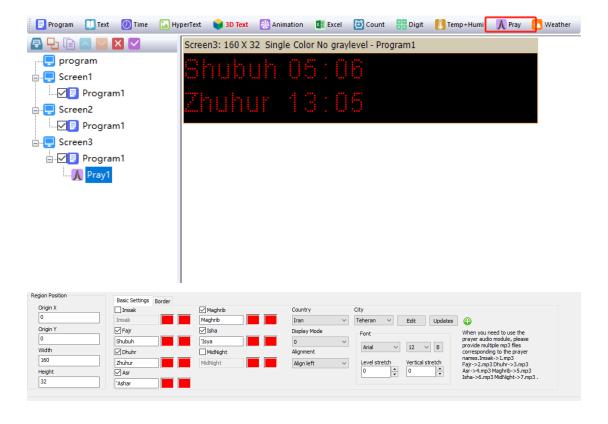


#### 2. The PM2.5 sensor is as shown below



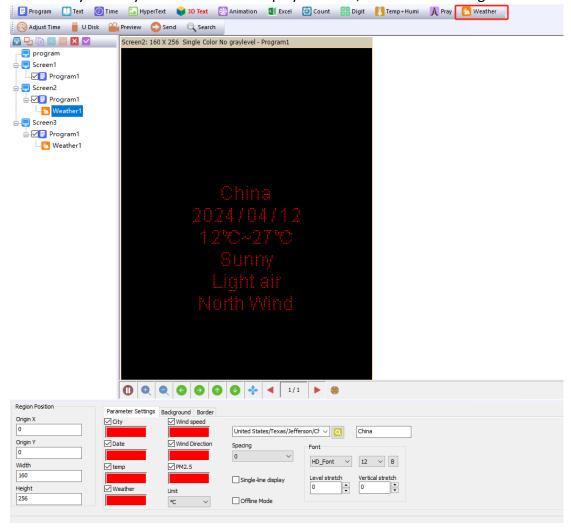
#### 5.11 Prayer

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; Click Pray to display the prayer area. Select the prayer time for the country and city you want to display below, as shown in the picture:



#### 5.12 Weather

Steps: Refer to the contents of 4.1 and 4.2 to create a display screen-program; When the weather area appears in the stand-alone weather, select the weather of the country and city that needs to be displayed below, as shown in the figure:



- A. Currently, the online mode only supports the network port, and the offline mode is supported by all control cards;
- B. The network port is connected to a router that can access the Internet. The weather data acquisition time of the slave computer is once an hour.

# **Chapter 6 Communication Settings**

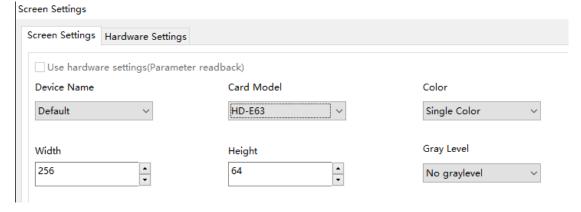
#### 6.1 Communication settings (network port)

#### 6.1.1 LAN single network card (HD-E64) communication

Method: No settings are required. After the single machine is directly connected to the control card, the information window will prompt that the device has been searched, as shown in the figure:



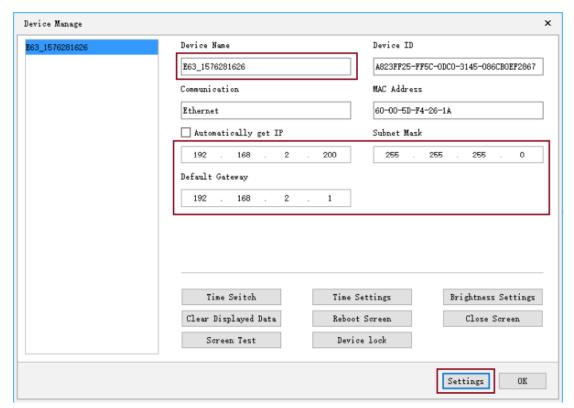
If the current information window prompts "The selected screen is not bound to a device", please enter the settings screen parameters and select the device name, as shown in the figure:



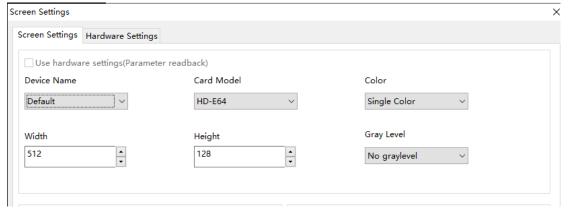
# 6.4.2 Communication with multiple network port cards

# (several HD-E63) in LAN

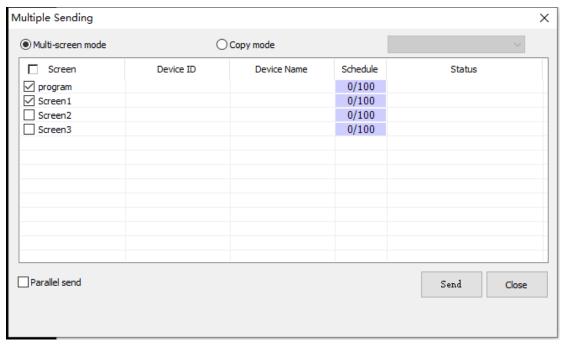
Method: 1. When using multiple network port cards, change the IP address of the control card to the same network segment as the current LAN. As shown in the figure, change the IP address and device name of the control card in the device management interface, and click the settings after modification .



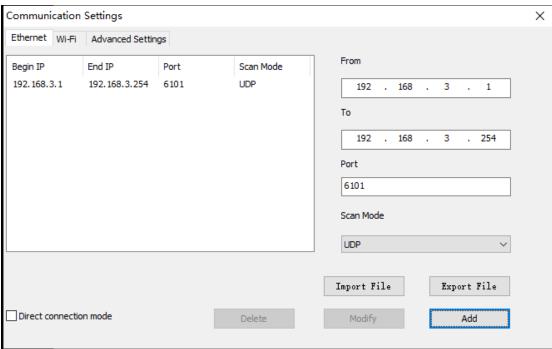
2. After the IP address is modified, create a new display screen in the software, and bind the device name when setting the screen parameters. How many cards are there and how many displays are created in the software.



3. Use cluster sending to send programs, or select one of the displays to send individually



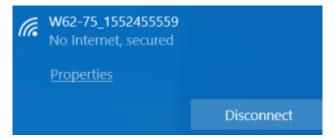
4. If the control card is in the same network segment, refer to 1, 2, and 3 to complete the setting and send it; if the current network segment of the control card is not in the same network segment as the main control computer, please add the network segment where the control card is located in the communication setting interface. Network segment, for example, the control card is connected to the 192.168.3.\* network segment, and the current main control computer is in the 192.168.5.\* network segment. The communication setting interface in the 2016 software needs to add the IP 192.168.3.\* of the control card, or Directly add the IP segment 192.168.3.1----192.168.3.254, as shown in the figure:



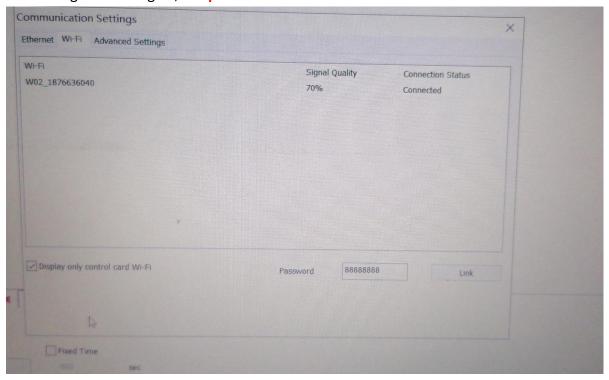
# 6.5 Communication settings (Wi-Fi card)

### 6.5.1 Single Wi-Fi card connection

When connecting a single Wi-Fi card, first connect the **Wi-Fi signal sent by the control card** ( the current computer is required to have a wireless network card. If you use a desktop computer, you must purchase a wireless network card. If you use a notebook, it usually comes with its own wireless network card ) as shown in the figure. Shown: Three Wi-Fi cards are currently connected to the network.



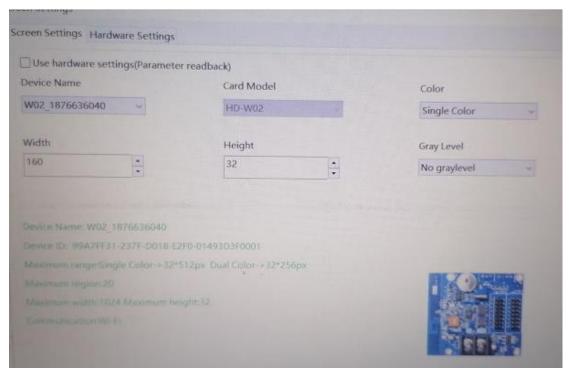
connecting to Wi-Fi signal, the password defaults to "88888888".



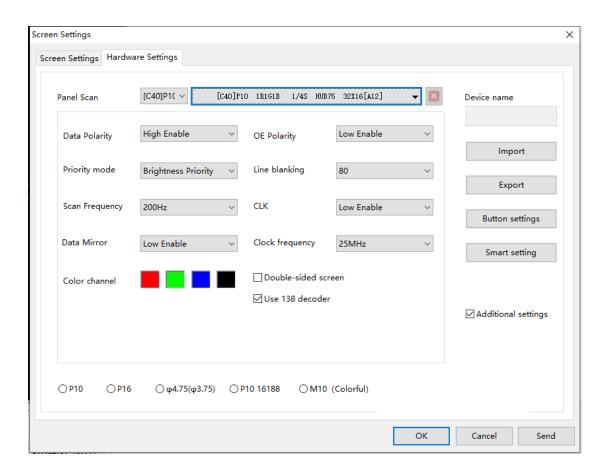
the Wi-Fi is connected, **the device can be found in the software**. As shown in the figure: the information window will display the device name of the control card and other information in the line column.



Select the current device in the screen parameters to send content to the control card, as shown in the figure:

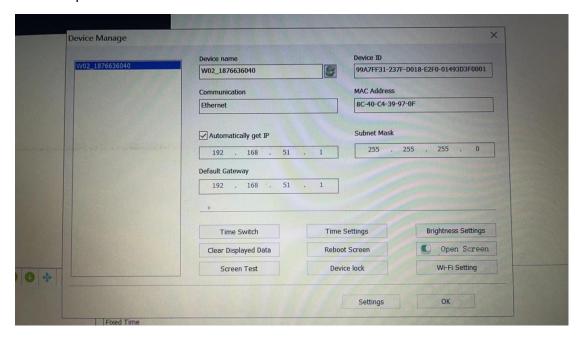


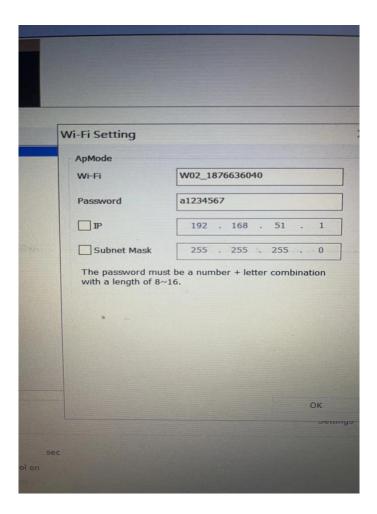
If the current display screen does not display normally, set the intelligent setting parameters in the hardware setting interface. If the current display screen displays normally, there is no need to enter the hardware setting interface setting. ( For regular screens, you only need to select common smart settings, and for non-conventional screens, you can make smart settings )



# 6.5. 2 Change Wi-Fi SSID and password

In the menu bar of the main interface of the software, click Operation→Device Management→Wi-Fi Settings to enter and then you can start changing the card's SSID and password.



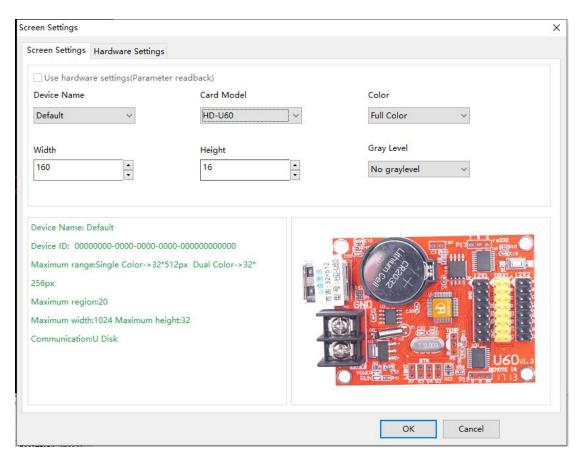


#### 6.6 How to use USB flash drive card

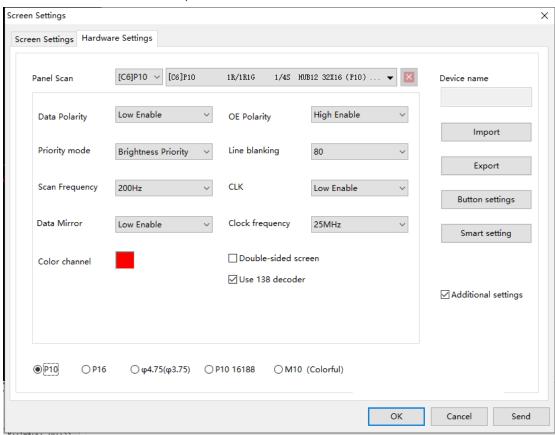
U disk card requires no wiring and is easy to use.

The first time you use a USB flash drive to guide a program, you need to check "Export Setting Parameters". The specific usage is as follows, taking the conventional P10 module as an example:

- 1. Set the screen parameters of the display screen. Enter the setting screen parameter setting interface:
  - As shown in the figure, set the screen color, screen width, screen height, grayscale and other parameters



2. Set hardware setup parameters. (If the current display screen is normal, there is no need to set this interface)



Adjust Time U Disk Preview C Search Export to U disk Please select device Removable Device(E:) Local Disk ✓ Export program Free Space File Size 13.69 KB Device lock Screen Screen2 Adjust Time Screen Size 160 \* 256 Color Single Color ✓ Export the parameters Gray Level No graylevel **HDSign** etting exceeds the control range of Successfully export, whether to pop up U disk? 是(Y) 否(<u>N</u>) Export File

3. After adding content, text and other areas, click U disk export.

Note: 1. The export setting parameters only need to be checked when adjusting the screen for the first time, and do not need to be checked when modifying the content later;

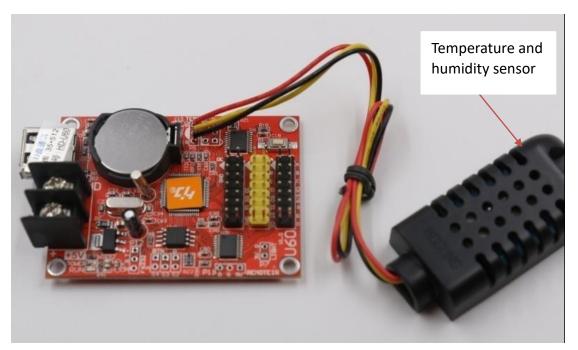
2. The display shows the time, and the time adjustment must be checked, otherwise the time will be inaccurate.

# **Appendix 2 Common settings during use**

# Appendix 2. 1 Temperature, temperature and humidity, PM2.5 operating instructions

#### Temperature and humidity operating instructions

1. The connection diagram is as shown below. The red wire is connected to the positive pin, which is the box-shaped pin, the yellow wire is connected to the middle pin, and the black wire is connected to the third pin.



2. Use of temperature and humidity sensors

The sensor model is: AM2301 Normal voltage: 4.2-5.2V

Humidity measuring range: 0-100%RH

Temperature measurement range: -40--80 degrees Celsius

Humidity measurement accuracy: ± 3%RH

Temperature measurement accuracy:  $\pm$  0.5 degrees Celsius

- 3. Software settings for temperature and humidity
- a. Create a new temperature + humidity area, refer to 5.9 Temperature and Temperature and Humidity Area Establishment.
- b. Set the parameters of temperature and humidity: Only the temperature or only the humidity can be displayed through parameter setting.



- c. If the temperature and humidity are not very accurate, you can make fine adjustments through temperature and humidity correction.
  - d. Support background and borders.

#### 二、 Temperature operating instructions

1. For a non-waterproof temperature sensor, the flat surface of the sensor faces you. The right pin is facing forward and is connected to the box on the control card.



Model: DS18B20

Normal voltage: 4.2-5.5V

Temperature measurement range: -55--125 degrees Celsius Temperature measurement accuracy:  $\pm$  1 degree Celsius

2. For a waterproof temperature sensor, the red wire is connected to the positive one, which is the box-shaped pin, the yellow wire is connected to the middle pin, and the black wire is connected to the third pin.



Model: DS18B20

Normal voltage: 4.2-5.5V

Temperature measurement range: -55--125 degrees Celsius Temperature measurement accuracy:  $\pm$  1 degree Celsius

- 3. Temperature area settings on the software
  - a. Create a new temperature area and refer to 5.9 to establish the temperature area;
  - b. Set temperature parameters: You can add background text in the temperature area through settings.



- c. If the temperature is not very accurate, you can make fine adjustments through temperature correction.
- d. Support background and borders.

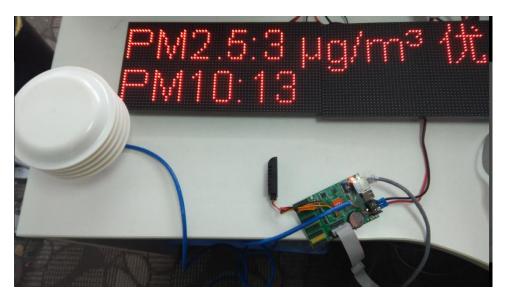
#### 三、 PM2.5 operating instructions

- 1. Firmware version: V4.15
- 2. PM2.5 module models (U6A, U60, W60, G62, U62, U6B, W62) are not supported

Support PM2.5 module models (E62, E62P, E63, E64, E66, U63, U64, U60PLUS, U62PLUS, U60-75, S63, W60-75, W63, W64)

#### 3. Wiring

serial	Network cable	Wiring position
number	color	P12
1	Brown, white brown	P12 round hole
2	Orange, white orange	5V
3	green, white-green	P12 middle round hole
4	Blue, white and blue	P12 square hole



- 4. Temperature zone settings on software
  - a. Create a new temperature and humidity area and refer to 5.9 to establish the temperature and humidity area;
  - b. Set the parameters of PM2.5: You can add background text in the temperature and humidity area through settings.



- c. If PM2.5 and PM10 are not very accurate, you can make fine adjustments through PM2.5 and PM10 correction.
  - d. Support background and borders.