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HD2016 LED Display Controller Operation Manual

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Appendix 1: Control card catalogue

Appendix 1.1: Control card selection

Control card model No, control range, and hub port type

Model No	Communication	single color	Dual color	Tri color	Hub port
HD-U6A	USB port	320*32	160*32	/	2 HUB12
HD-U60		512*32	256*32	/	1HUB08,2HUB12
HD-U6B		1024 *48	512*48	/	3HUB12
HD-U61		1024*32	512*32	/	1HUB08,2HUB12
HD-U62		512*64	256*64	320*32	2HUB08,4HUB12
HD-U63		512*128	256*128	320*64	4HUB08,8HUB12
HD-U64		512*256	256*256	320*128	1 of 50PIN
HD-S61	USB+ Serial port	1024*32	512*32	/	1HUB08,2HUB12
HD-S62		1024*64	512*64	672*32	2HUB08,4HUB12
HD-S63		1024*128	512*128	672*64	4HUB08,8HUB12
HD-S64		1024*256	512*256	672*128	1 of 50PIN
HD-S65		1024*512	512*512	672*256	2 of 50PIN
HD-S66		2048*512	1024*512	1344*256	2 of 50PIN
HD-E61	USB+LAN Port	1024*32	512*32	/	1HUB08,2HUB12
HD-E62		1024*64	512*64	672*32	2HUB08,4HUB12
HD-E63		1024*128	512*128	672*64	4HUB08,8HUB12
HD-E64		1024*256	512*256	672*128	1 of 50PIN
HD-E65		1024*512	512*512	672*256	2 of 50PIN
HD-E66		2048*512	1024*512	1344*256	2 of 50PIN
HD-W61	USB+WIFI Port	1024*32	512*32	/	1HUB08,2HUB12
HD-W62		1024*64	512*64	672*32	2HUB08,4HUB12
HD-W63		1024*128	512*128	672*64	4HUB08,8HUB12
HD-W64		1024*256	512*256	672*128	1 of 50PIN

Chapter One: Introduction

1.1: Function feature

HD2016 control system is a creative and drastic changes which is made by Huidu technology Co.,Ltd .To offer customer easy and stable selection. we integrate part of repetitive controller, the control range become more flexible, the price become more effective, which are enough to meet market trend of higher, longer, multiple strip screens.

The software whole interface kept the style of simple operation, strong function, easy to learn and use, support image-text(Excel、JGP、BMP、GIF、SWF、video、text、animation word etc.)、Text、animation word、Excel、time、timer (countdown /up/button countdown / up)、count、lunar calendar、Temperature and humidity etc, can support serials port(including 232 and 485)、Ethernet port、WIFI、U-disk etc. Multiple control communication, can meet the application of different situations.

Main advantages:

1. Support gradation (control range would be affected);
2. Support layer overlay, areas overlap;
3. Add WordArt, animation characters;
4. Full support smart settings, support for all modules (U disk card using common settings);
5. Support a variety of custom combinations of effects;
6. Support Subdivision background;
7. Add button chronograph (cyclic time), button count;
8. Support Live Partition (secondary development);
9. The higher brightness and faster speed left. Higher refresh rates;
10. The new text rotation, supports 90°, 180°and 270°rotation;
11. The increase in receivables function, parameter lock screen function;
12. Support Temp, humidity, brightness, remote control and can choose to play 1-999 programs;
13. Support 485 and 232;
14. Support direct connection, LAN, inter-network multi-connection, the device can be found;

15. Support WIFI wireless connection, no wiring, can also insert to router to cluster manage;

16. Support group management.

1.2: operating environment

Operation system: Chinese and English

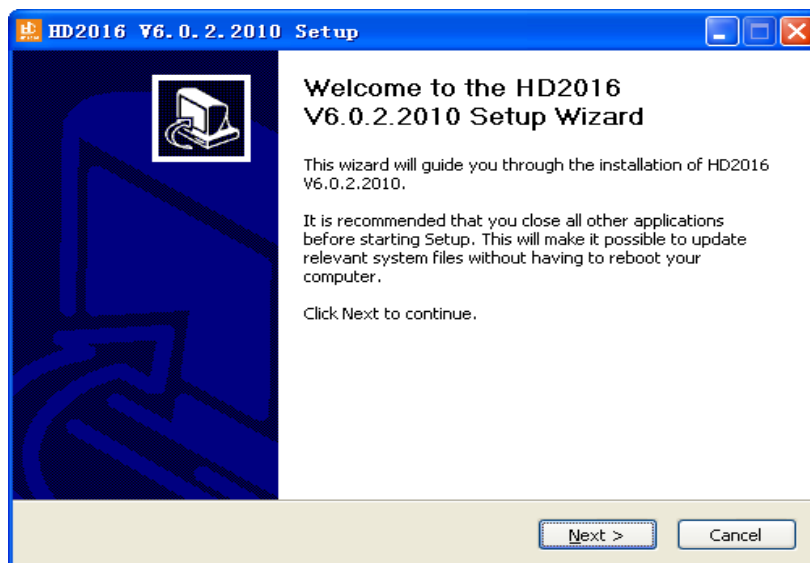
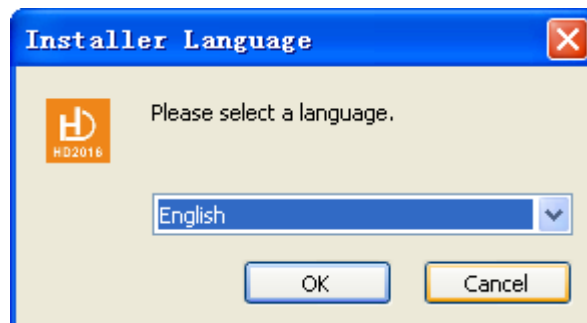
Software support all languages

Windows 2000/XP/Win7/Win8/Win10 etc.

Chapter two: Install and uninstall

2.1: Install

HD2016 simple install process, operation as below: find the file HD2016_V2.0.1.1907.***.zip in the CD. Unzip it and double click HD2016_V2.0.1.1907.***.exe. You will enter the software installation guide as below



Follow guide tips (next step) to finish installation

Note: if the operated system is Win7 or Vista, please put the installation path to non-system disk

After HD2016 software finished installation ,in【start】→【program】can find “HD2016” program group, then click HD2016 to run it. As well, you can click shortcut of HD2016.exe on the desktop to access software.

2.2: uninstall

HD2016 software package offer full uninstall function, user can easily delete all files, programs and shortcut in the “HD2016”folder.User can select uninstall HD2016 in 【start】 → 【program】 →HD2016 program group to finish uninstall.



Chapter three: TOOL DETAILS INSTRUCTIONS

3.1: The software main interface

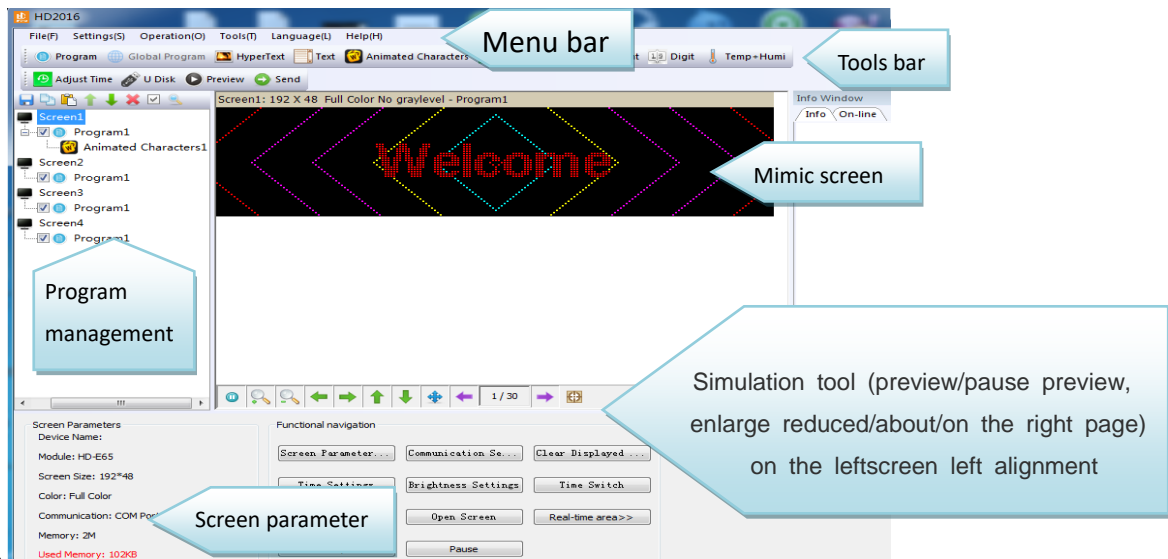
Open “HD2016” software main interface as below:

Group manage screens.

The toolbar can be divided into two columns, can also be shown as one row.

Info window can show the command status if send successfully, also can show current online

Device.



3.2: title bar

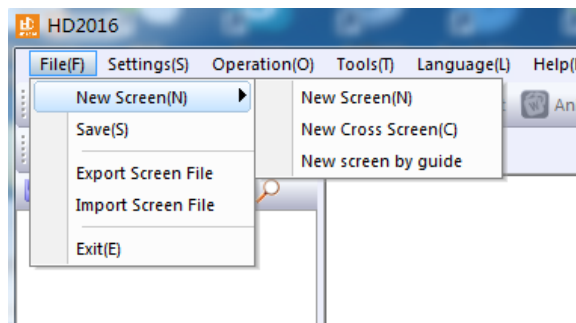
This part used to show software name.

3.3: menu bar

This part contains file-settings-operation-tools-view-language-help etc.

3.3.1: file menu

Contains new screen、 save、 export screen、 import screen、 exit etc. six options as below:



New screen (Ctrl+N): used to create a new screen,HD2016 manage screen without limited, can also be grouping manage(select group option in system setting).

Save (Ctrl+S): used to save current screen file.

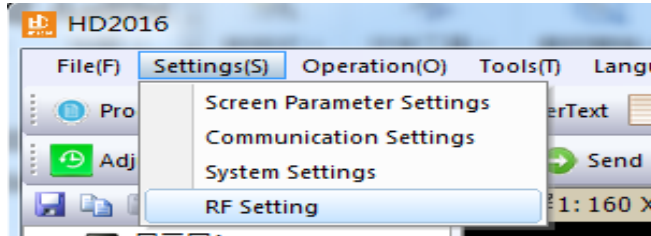
Export screen file: export current screen file to user-defined path, convenient to client.

Import screen file: load screen file to software direct, no need make program again.

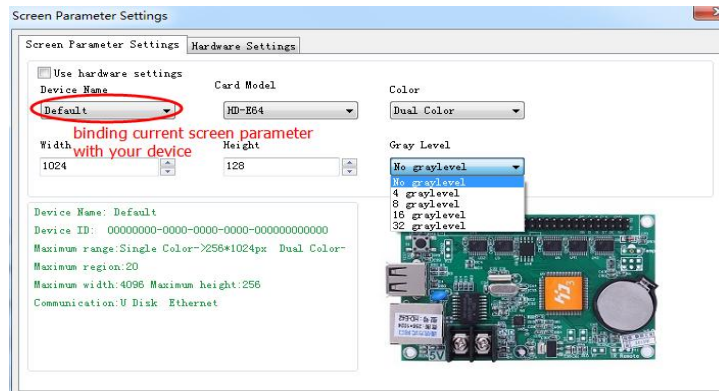
Exit: close HD2016 software.

3.3.2: setting menu

Contains screen parameter settings、 communication settings、 system settings、 RF setting, see as below:



1.Screen parameter settings: used to bind parameter of device and screen, as below:



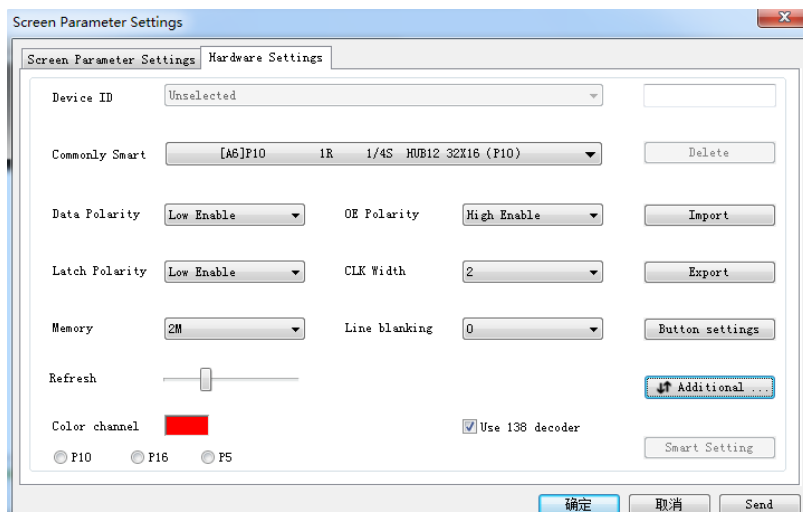
1).First step, if control card displays normally, it just need set screen’s width and height pixel, color and gray level,

2).If display not normally, then it need go to hardware setting. Second step, hardware setting, please choose default common smart setting for common screen.

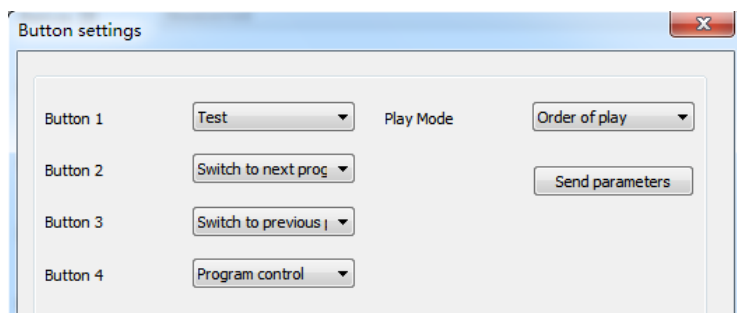
For example: P10 single color, just select below photo of A6 then it is ok. And others no need change.

Note: For abnormal led module, select Additional –smart setting .

(For smart setting: it need find the device first , U-disk controller can’t smart setting)



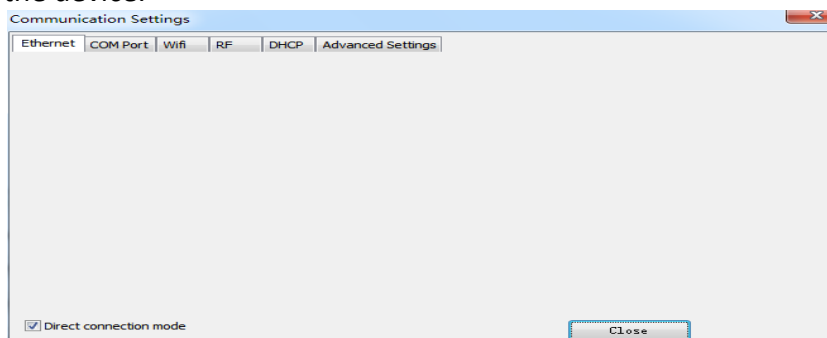
Button setting in the interface of hardware setting, used to set four buttons' function, as below:



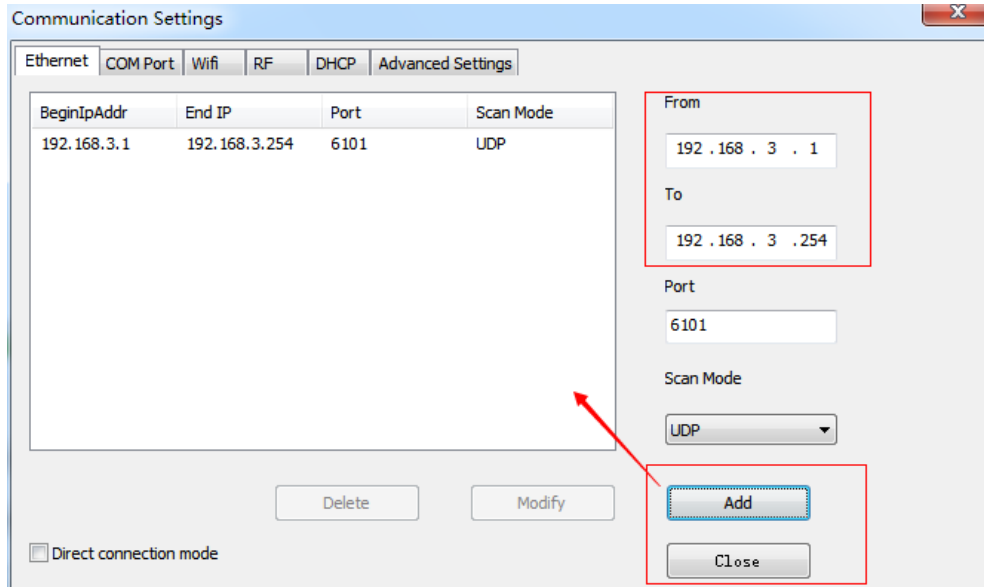
2. Communication setting: used to amend the way when connecting multiple cards.

1).Ethernet:

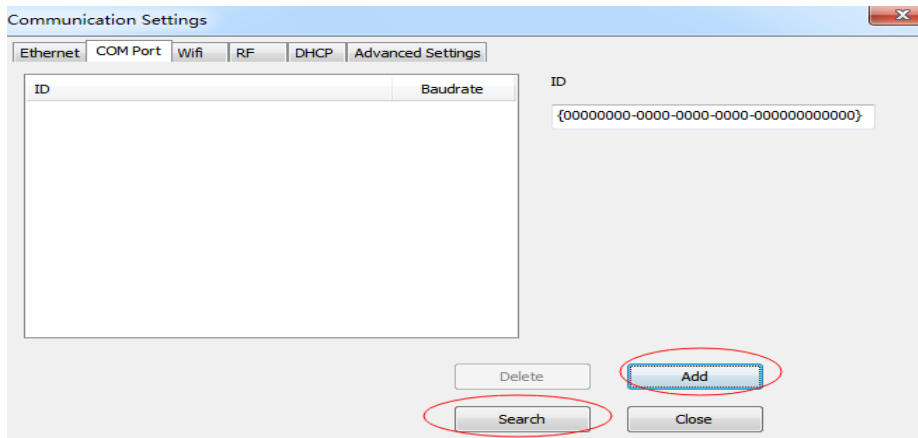
①The defaulted way is connection 1PCS card .Meaning only one card connected with computer, no need any IP setting, just need normal LAN cable connection and find the device.



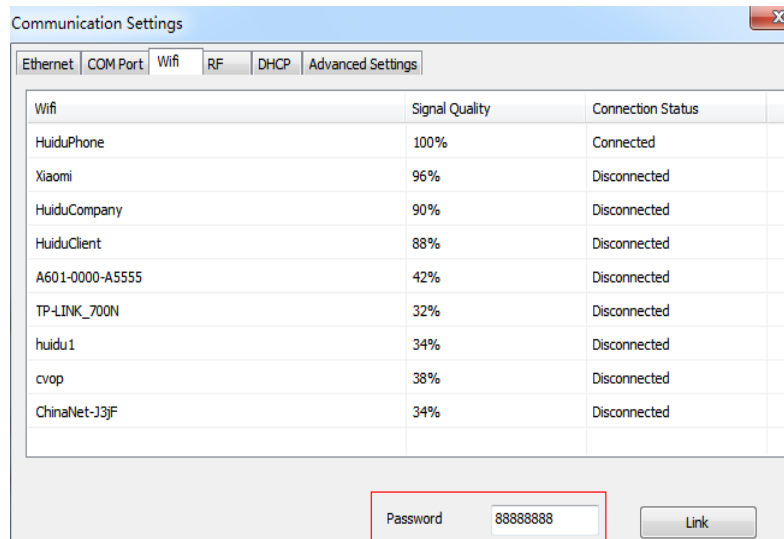
②.when not select “Direct connection mode”, it is suitable for condition when controller and main operated PC are not at the same network segment, it need add the IP address of controller network segment to the software. Operation as below. After added, then you can find the controller in 192.168.3.*



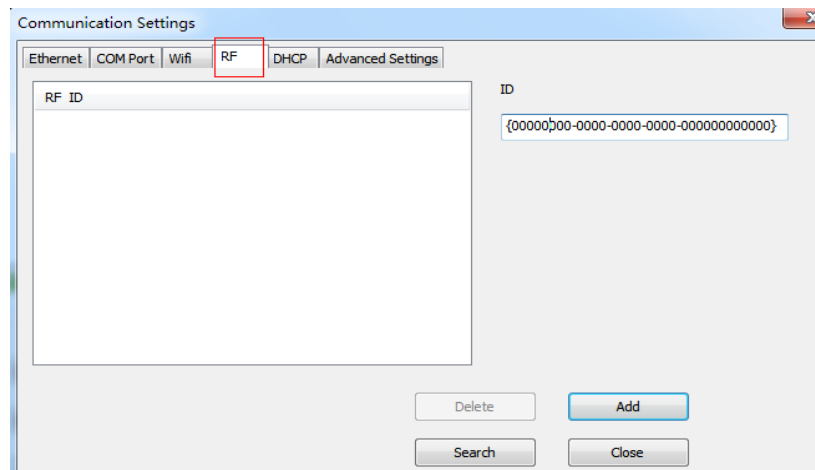
2). COM Port: used for case of connecting multiple 485 serials port controllers. when first time connecting 485 serials port controller, user only can connect it to PC one piece by one piece, click the “search” as photo shows below, store the ID in the current interface or manual add known ID ,when all Card’s ID show in the current interface, pls connect all cards’ 485 port well.



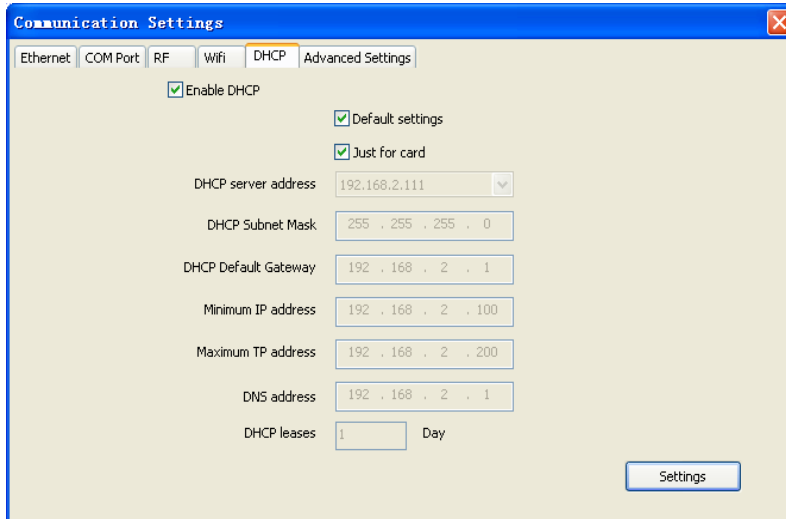
3).wifi: Used connect wifi signal of controller ,automatically default input password 88888888 ,no need manual input, as below shows:



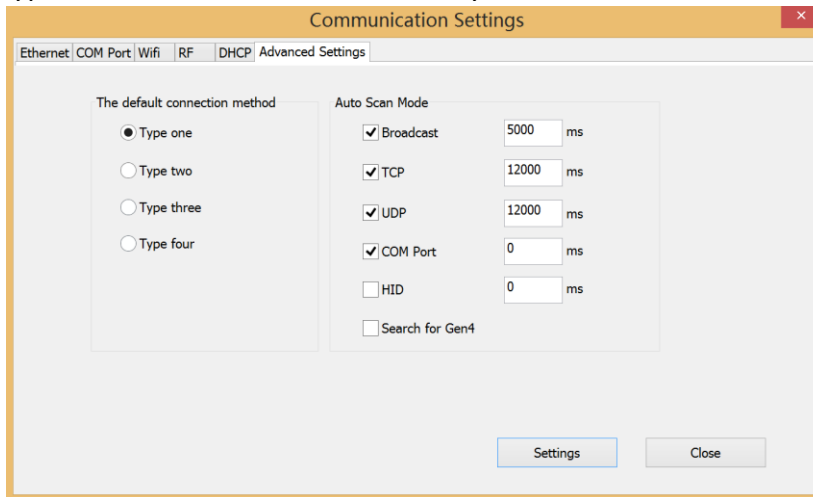
4). RF: Only used for the case of controller added RF module, to search controller ID.



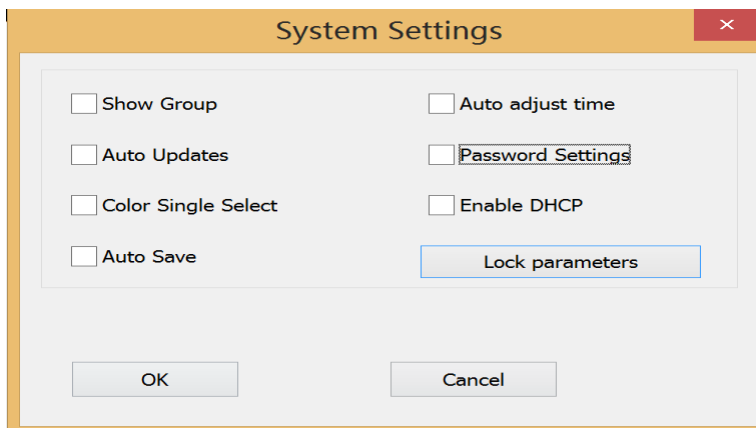
5). DHCP: when multiple controllers connected to the Switch, user do not need set card IP address. Use DHCP, software will distribute IP address for controllers automatically, see picture as below: software distribute IP address 192.168.4.100-192.168.4.200 to controllers. Only use on the case of controller connected to Switch, no router.

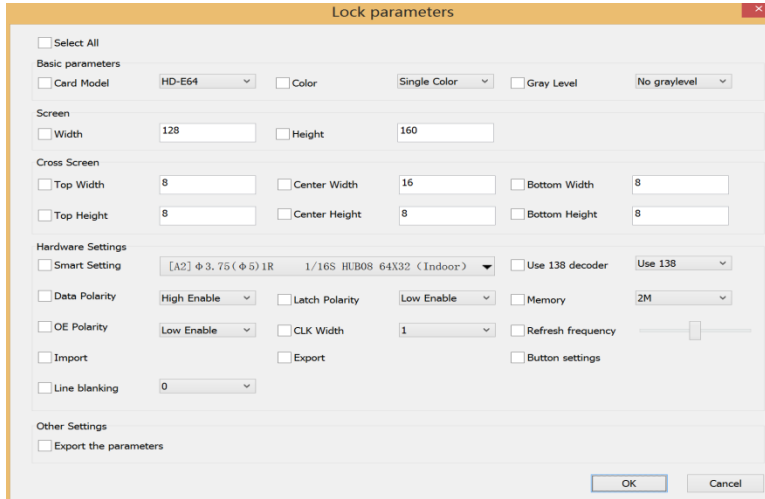


6). Advanced setting. Advanced setting interface is used to set if need find 4th generation card (After found 4th generation card, just upgrade firmware), Type one to type four is LAN card connection way. The software Default setting is Type one.

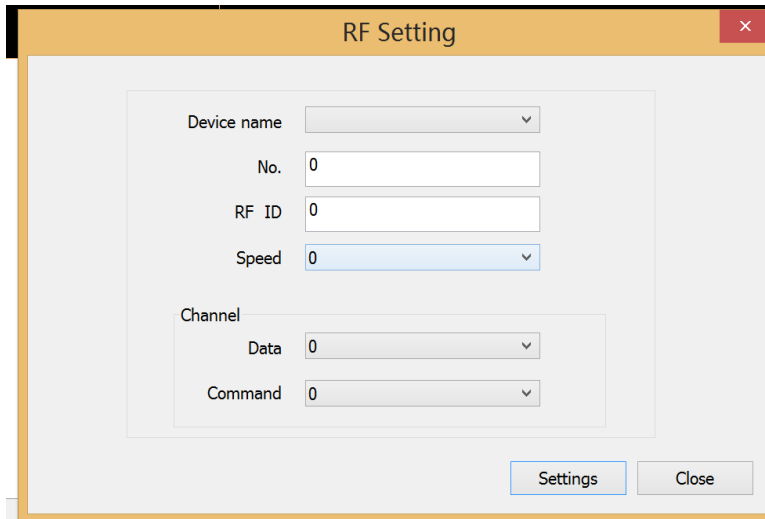


3. System setting: setting system parameter (suggest not modified)
Add new function: lock screen, it can choose which parameter can't modification.



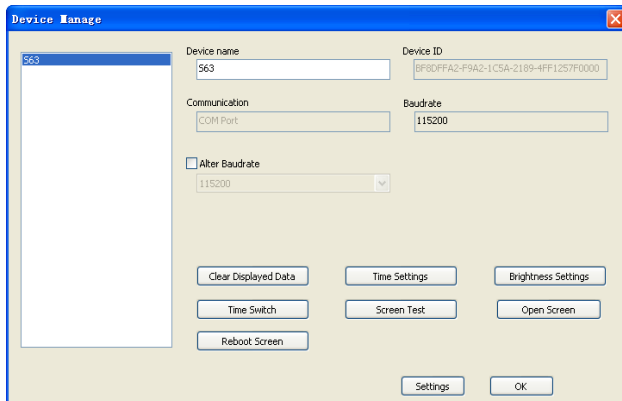


4.RF setting: Setting RF module sequence number、ID、data、speed and order.



3.3.3 Operation menu

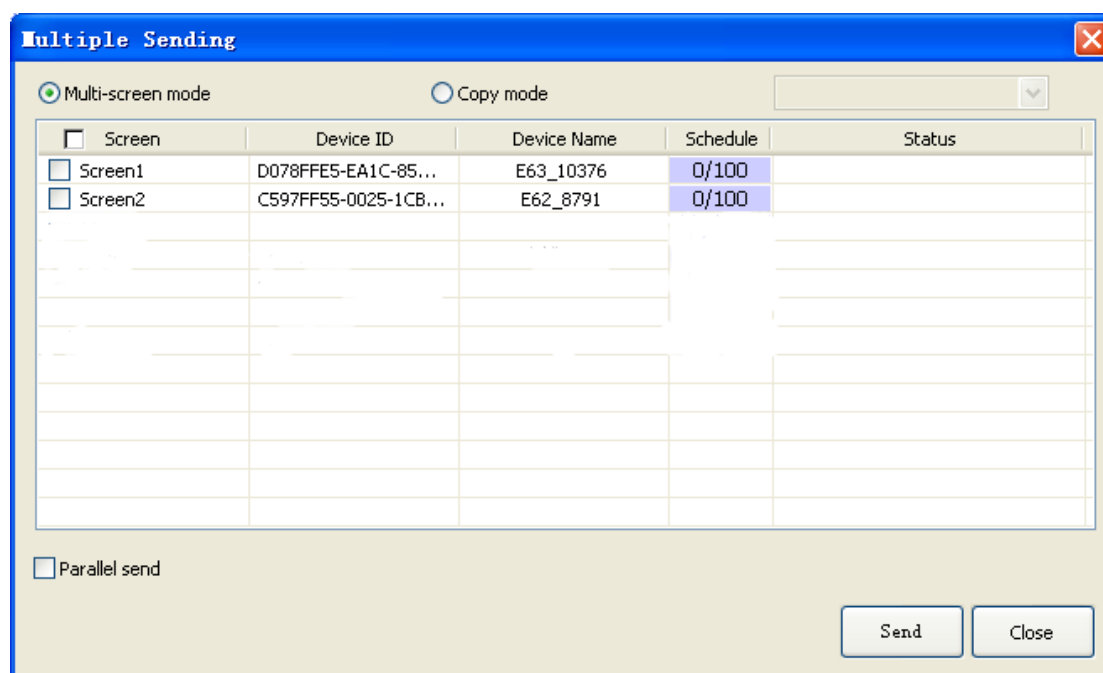
1).Device manage: modify all the found device name, modify Ethernet card IP address, and manage device clear display data、 timing setting、 brightness setting、 timer switch、 display screen testing、 switch、 restart display screen.



2). **Multiple sending:** Sending multiple led screen files. And have two modes: multiple -screen mode and copy mode. All found device can be used ,including Ethernet port card、 serial port card、 Wifi card .

①Multiple-screen mode: In Setting-screen parameter setting-Device name, and must select device name, and each screen file binding a device.

②Copy mode: Selected the screen file that need send, and sending this screen file to all found devices.



3). **Time settings:** setting led control card time, can be system time, also can try past or future time.

4). **Brightness setting:** Having 3 mode. custom, automatic adjustment and by time period regulation

5). **Timer switch:** Setting time with PC synchronous or setting time by different.

6). **Boot Animation:** Showing image when opening the display. Selected Enable, and select image (bmp、 jpg、 png) after download file click “sending”, or export file to U-disk.

7). **Display screen testing:** software test led display

8). **Clear display data:** Clear control card program

9). **U-disk import screen parameter:** When display showing normal--and insert U-disk to PC- -The U-disk can read screen parameter.

If insert U-disk to PC-- click “import parameter from U-disk ”---then the current parameter import to software HD2016.

10). **Update Firmware:** Used for updated firmware

3.3.4 Tools

Including Notepad、calculator、drawing、network testing、the local IP Settings, Animated characters background、info window、Program appearance.

3.3.5 Language menu:

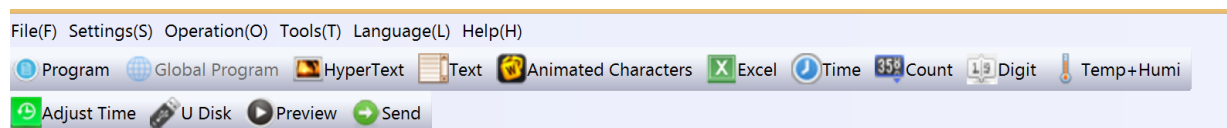
Including 21 kinds operation interface language Arabic, Bulgarian、Chinese simplified、English、French、German、Hindi、Iranian、Japanese、Korean、Mongolian、polish、Portuguese、romanian、Russian、Serbian、Spanish、Thai、Chinese traditional、Turkish、Vietnamese and so on.

3.3.6 Help menu :

Checking HD2016 software version and updating new version software synchronous

3.4 Toolbar

Including Program、global program、graphic、HyperText、Text、Animation Characters、Excel、Time、Count、Digit、temperature and humidity、Adjust time、U-disk、preview、Send and so on. 2 lines also can be adjusted to 1 line. As picture show:



Program: Used to set up new program

Global program: Used to set up led cross Pharmacy screen

HyperText: Used add new image-text area. Add picture、GIF、Animated characters、SWF、text、video、Excel. when just add picture, multiple picture edit special effect together,support region background.

Text : text support rotate 90°、180°、270° support region background

Animated characters: Effects of Single effects and multiple effects (The effects can be used together). Support Image background and other style background.

In Additional setting, support artistic font of Hollow and Stroke add new outline font, font stroke , and show multiple effects , and multiple special effect overlay using.

Excel: Add Excel area, support zoom in and zoom out, background and boarder.

In Additional setting , it have Color inversion、Center(The excel in middle showing) 、Vertical screenshots and Horizontal screenshots.

Time: digital clock and Dial clock together, dial add AM/PM display, support region

background

Count: support 4 modes count down, count up, button count down, button count up. Support circle timing, support region background.

Digit: count number from lowest to highest, or from highest to lowest. Support region background.

Temperature and humidity: temperature and humidity need different sensor, being used for show current temperature and humidity(It need add another weld sensor)
The temperature sensor is DS18B20,

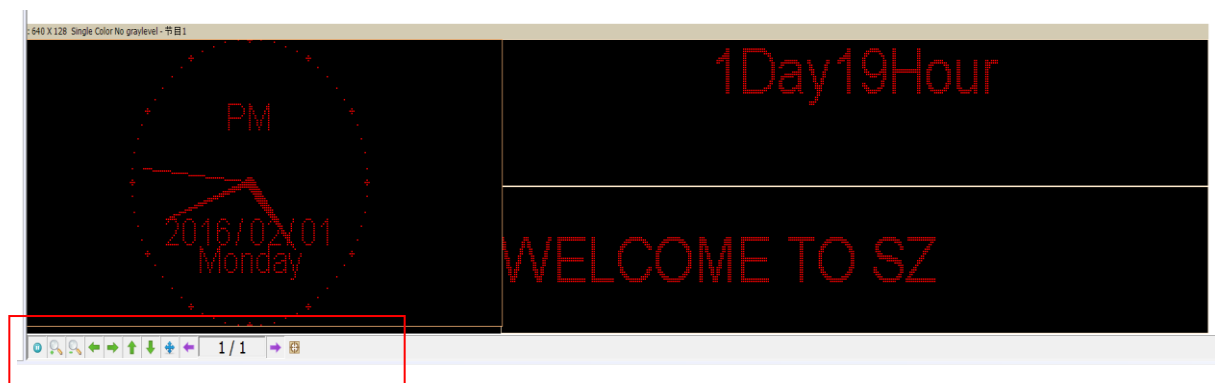
Adjust time: correct system time (adjust led control card time with PC synchronous)

U-disk: U-disk card special using. The current display file and time saved in U-disk (U-disk update program or updated firmware)

Preview: Preview current program or led screen overall preview. When selected Program, preview current program. And selected screen to overall preview, display showing effects same as preview screen.

Sending: Sending current led screen file.

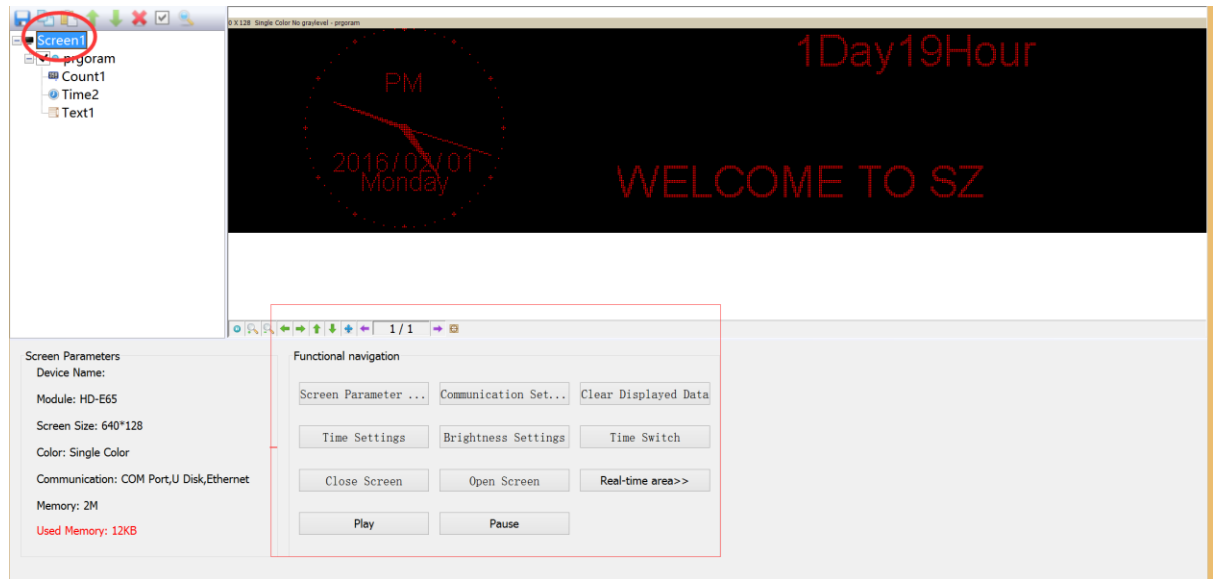
3.5 Simulating screen



Notice: see the red place, there have tools for edit simulating screen. (Include tools: preview/pause preview, zoom in/ zoom out simulation window, current region right and left shift, region overall, display content paging, simulate display window top left corner display)

3.6 Screen attribute Tool

This tool can setting brightness/timer switch etc .Add new function of real time region, and appointed display real time picture arbitrary area arbitrary size, but better need SDK.



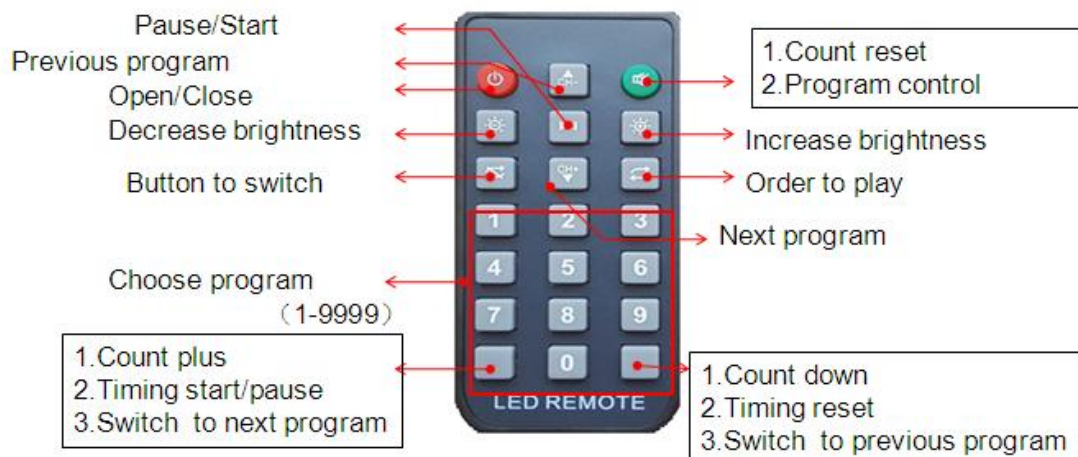
Current screen parameters: According to screen setting changes

Navigation function: Including navigation function such as, screen parameter setting, communications setting、clear display data、time setting、 brightness setting、 timer switch, display testing、 turn on screen、 turn off screen、 real time region、 play、 pause and so on

3.7 Remote control using

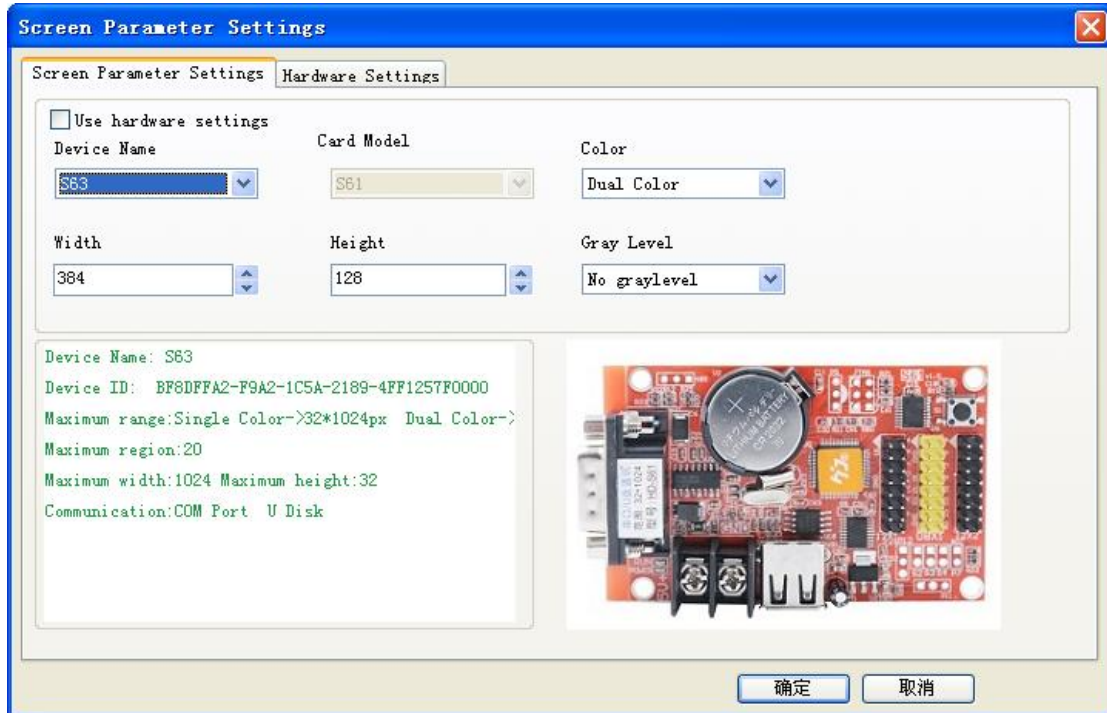
It need weld a infrared probe, remote control using as bellow:

Remote control function



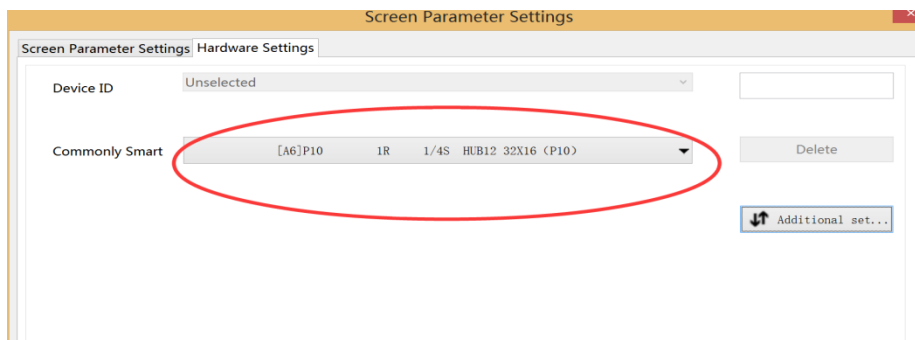
3.8 Smart setting method

1), In Setting-screen parameter setting, choose device and color



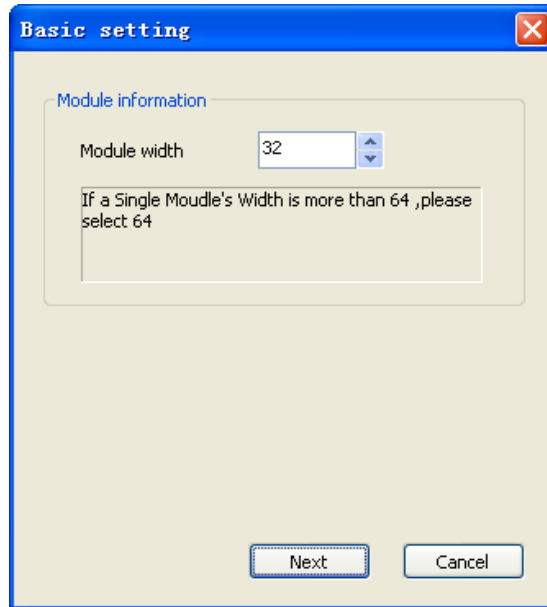
2) In Setting-screen parameter setting-hardware setting, if in commonly smart setting , it have the default screen parameter, then can direct choose, and click “sending” .

As bellow picture show:



If on commonly smart setting user can't find current setting file , then can refer smart setting.

①setting 1PCS LED Module Pixel of Width .for example P10 single color 32W*16 Pixel

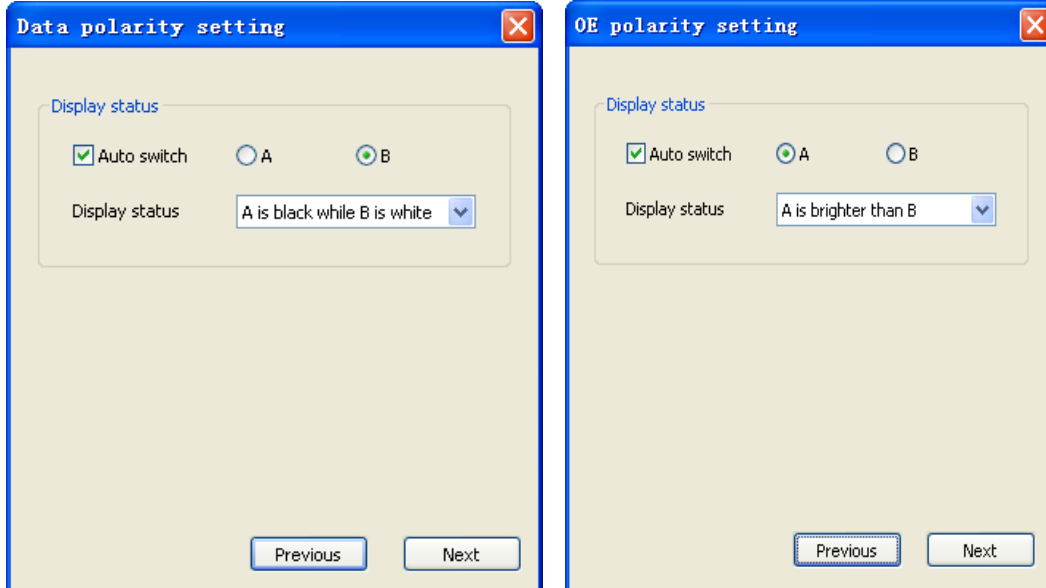


②choosing LED module data polarity and OE polarity

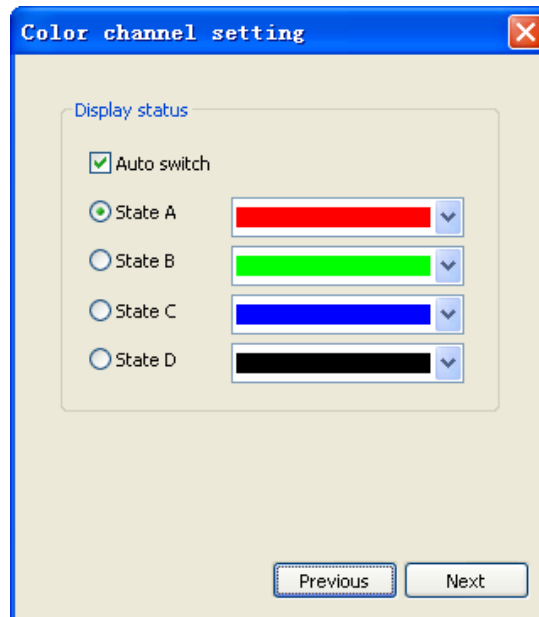
It need accord to LED module real showing.

A is bright B is black meaning data polarity is low effective, B is bright A is black meaning data polarity is high effective.

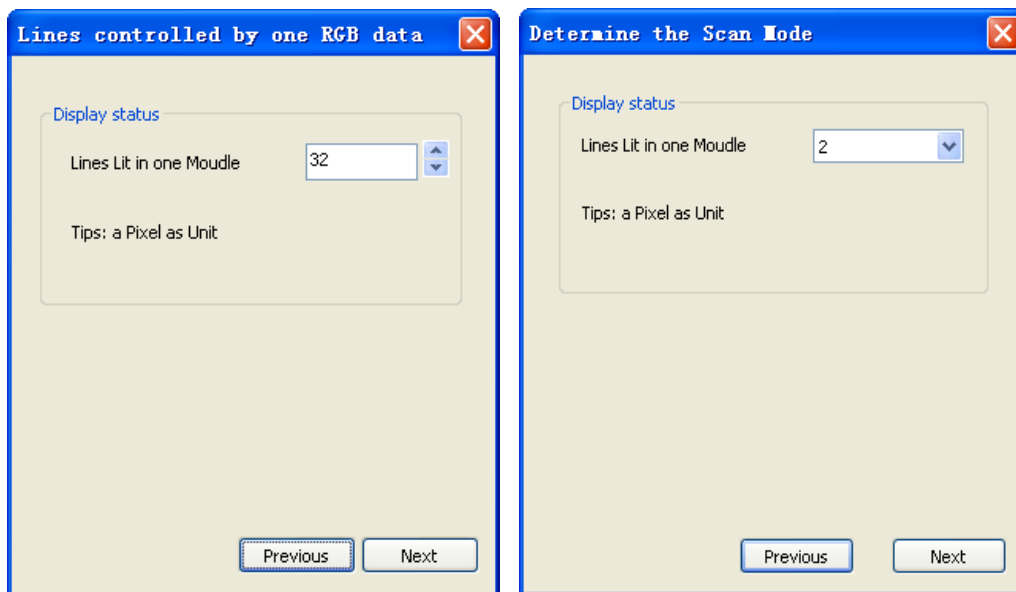
A is brighter than B meaning OE polarity is low effective, A is brighter than B meaning OE polarity is high effective. No changeable is meaning no 138 decoder



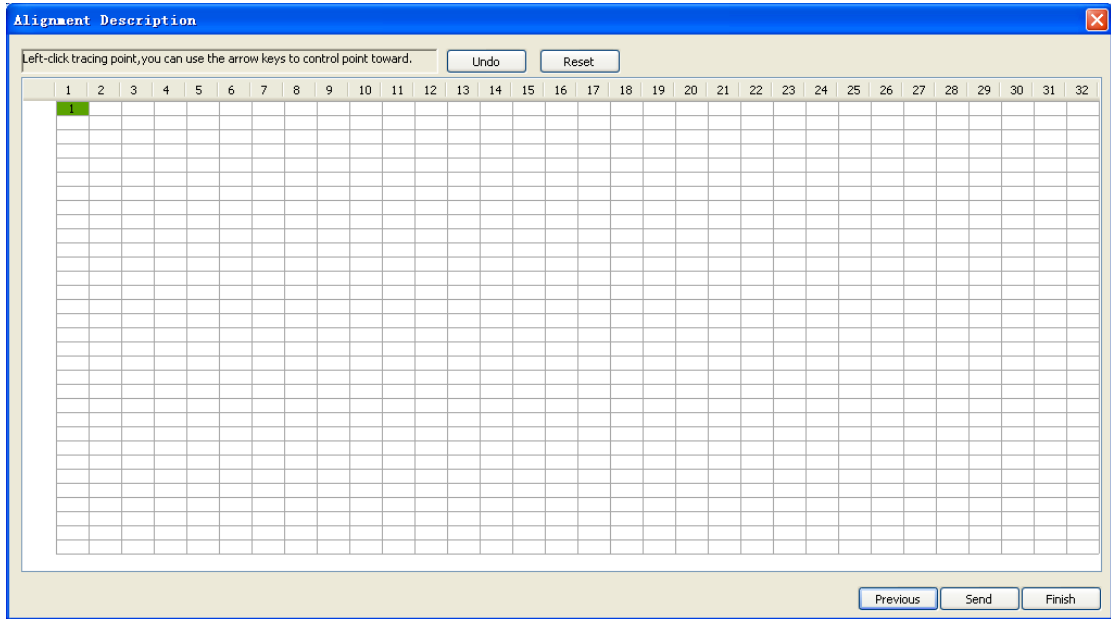
③ color channel according to screen actual situation to select. Single color for example P10 no need this choice , dual colors just have state A and state B.



④ Confirmed Led module scan mode. As picture show, $32/2=16$, can get to know the led module scan is 16 scan.

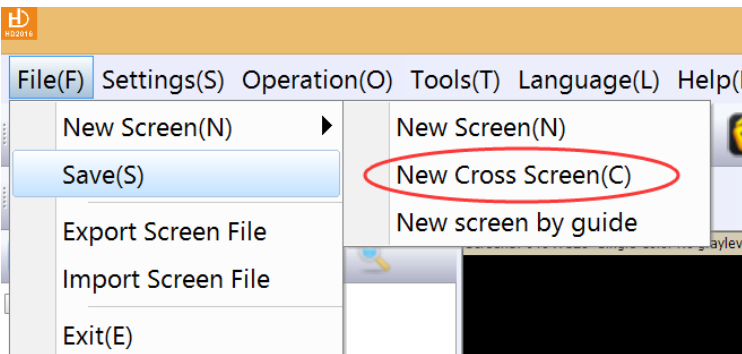


⑤ Agliment setting. The image same like 1PCS led module. Just see in the right corner of 1PCS module of the display.
 Then in that Led module one Led light is bright and Tracking point, then accord to led module going on. Tracking wrong step can click “step back ” and tracking this point again. Or reset all point. After finished tracking point click “save” file.
 The default save way is the custom. Saved at program installed path
 C:\Users\Administrator\AppData\Roaming\HD2016\FPGAFile。

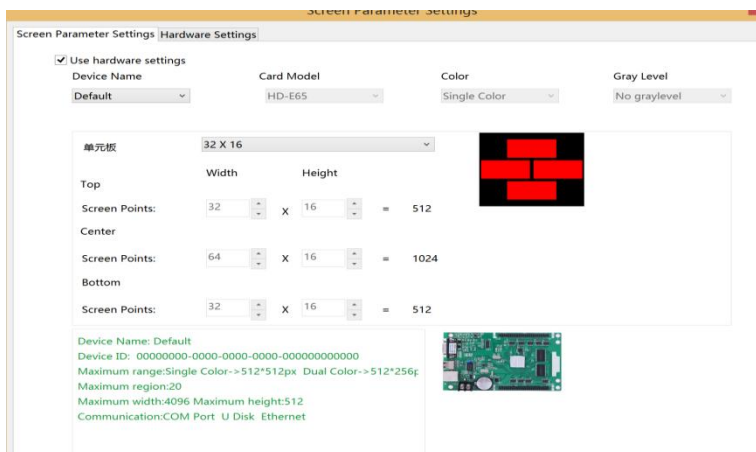


3.9 LED cross sign setting way.

A new cross sign screen, as picture:



1).Cross sign screen parameter setting same with normal module setting, just reference above. cross sign screen size divided into 3 parts to setting, Top、 middle、 bottom.

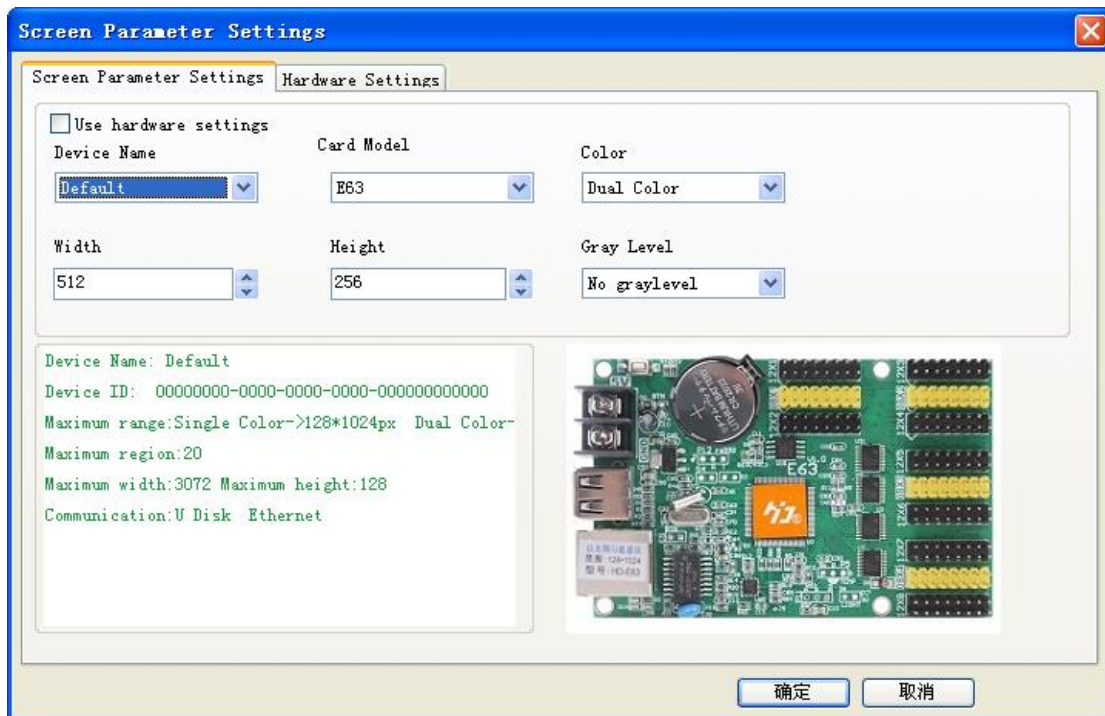


2).Cross sign screen can establish Global program and program, global program separated the top、 middle and bottom and showing in one area. Establishing program can set up 3 areas to show program.

Chapter 4 Setting up screen and program file

4.1 Set up new Screen file (The first level content)

Click file--- New screen (password: 168), the screen file been set.



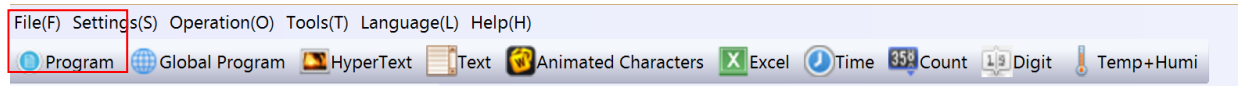
1).If Control card have correct parameter (Display working normal) Click “Using the hardware setting” and selected device here is HD-E63, then clicking “yes”, finishing establish a screen.

2). If Control card not have correct parameter (Display working abnormal). Do not select “Using the hardware setting”, selecting device and color, then setting width and gray level etc.

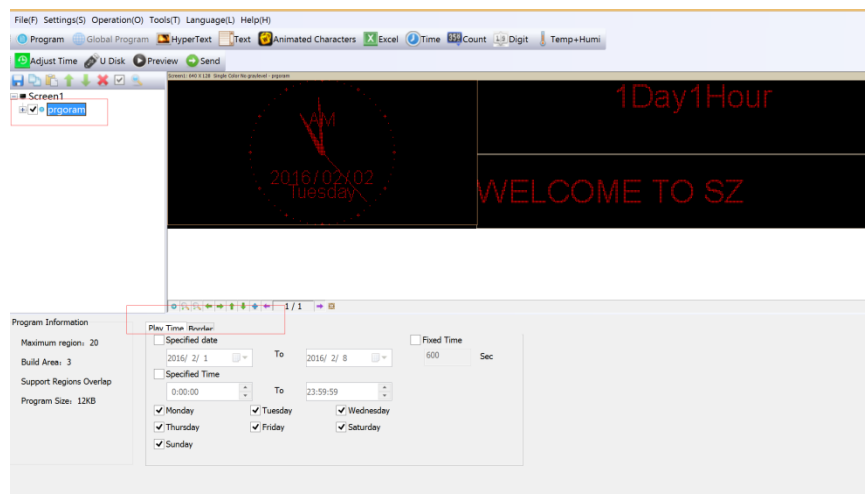
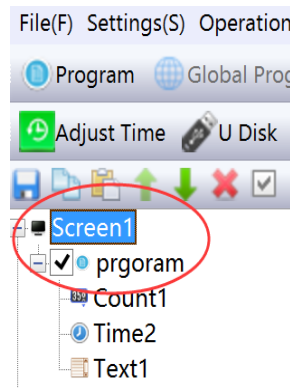
Then into Hardware setting, set screen Commonly smart. If Commonly smart setting do not have LED Module scan, please connect Ethernet cable or serial port cable or wifi to smart setting.

4.2 Set up new program (The second level content, one screen can set up 1000 Programs)

Click shortcuts Program button (First need click File-New screen) As picture:



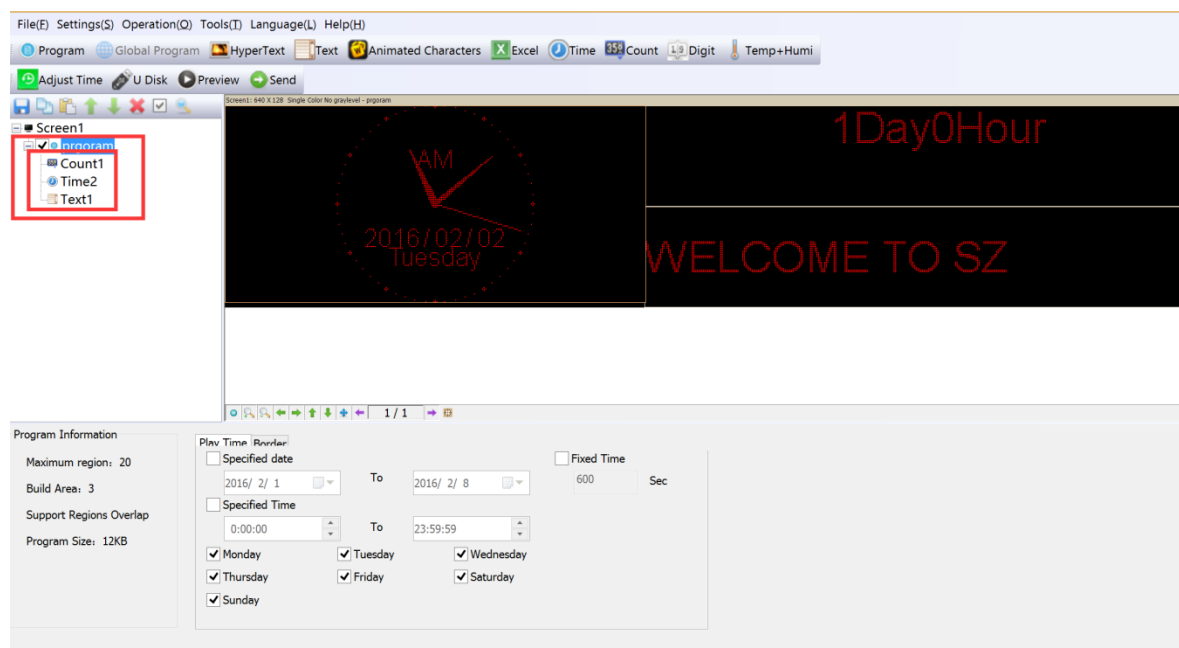
Or set up new Program as bellow picture setting):



Note: 1000PCS Programs can set different attributes, these attributes includes: Specified date, time、 these attributes includes: Specified date, time、 Fixed time、 Border.

4.3 Set up area (The second level content, each program can be set up 20 areas)

Select program first, then click Hypertext、 Text、 Time、 Count、 Digit、 Temp+Humi、 Animated Characters and so on to build different type of areas, shown as below



4.4 Program Editing Done

1).After finished 4.1 , 4.2 and 4.3 , the Screen File been set up. If user need to set up more programs, only need to repeat 4.2 and 4.3 steps(these programs will be displayed in one Screen); If use one software to control several screens, then need to create several Screen File and repeat 4.1,4.2, 4.3 and 4.4

2).After program done, it can be saved (default Saved Location:

C:\Users\Administrator\AppData\Roaming\HD2016\ProjFile, or through File saved to intended path)

On analog screen, user can check program effects synchronous and setting, if not satisfied , click Send and showing in display.

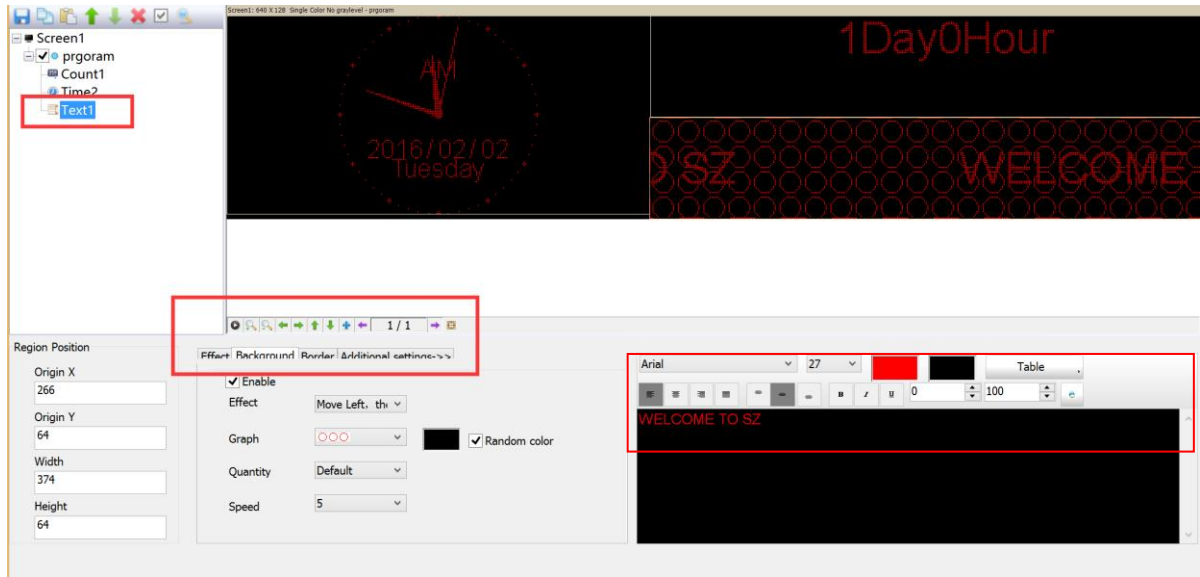
Chapter 5 How to display different content

5.1 Displaying Text

If just text showing, user just add Text area to meet requirement. Text support left turn、 right turn、 rotation of 90° 、 180° 、 270° and Excel etc. add areas、 add background、 support special effects.

Procedure: reference 4.1 and 4.2 content, setting up screen----program;

Click Text (Free setting coordinate、 length、 width)



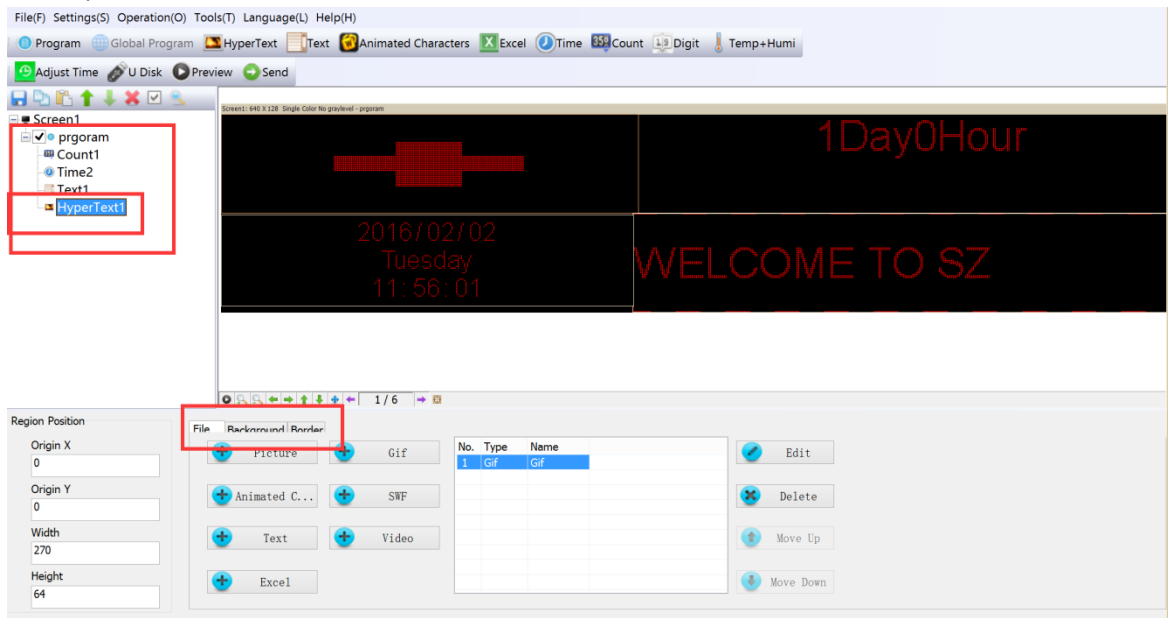
HD2016 software edit function is strong, even if modify single character. Editing right and left centered, up and down centered、 word space、 Line Spacing.

5.2 display HyperText of Photos etc

If user show logo or picture on display (Format only support JPG、BMP、PNG、GIF). The setting procedure as bellow.

Procedure: reference 4.1 and 4.2 content, Setting screen----program;

Click subtitle HyperText, appear HyperText area (Free setting coordinate、 length、 width)

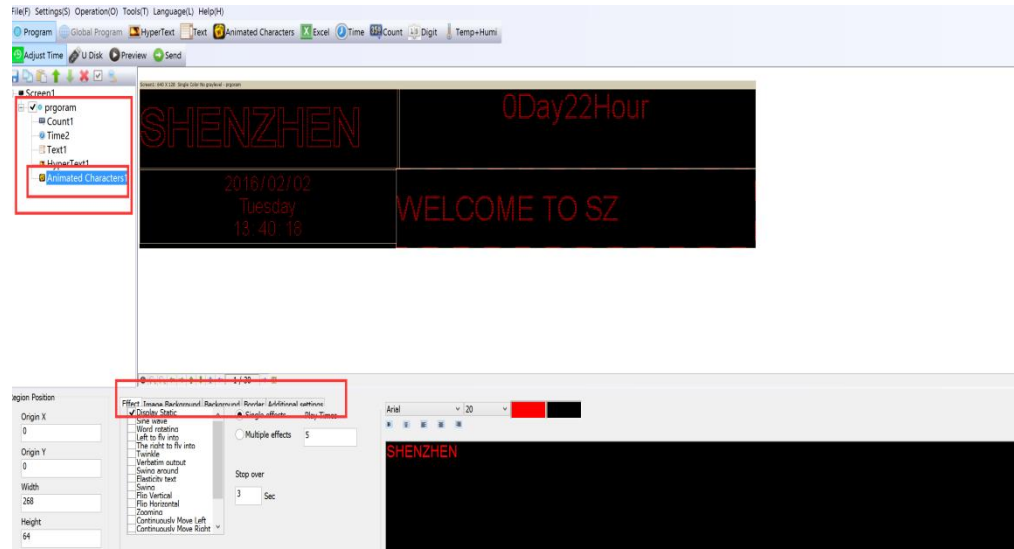


Picture can edit multiple picture, only picture can make it.

Supporting add new video、 Excel、 Animated characters, SWF,GIF, and image-text.

5.3 Animated characters showing

- 1).Reference 4.1 and 4.2 content, and set up Screen----Program-animated character;
Or click subtitle Animated characters, appear animated characters area (Freely setting coordinate、 length、 width)
- 2).Animated characters can set effect, image background, and also support area background overlapping showing. Also in Additional setting ,it have Hollow and Stroke effects



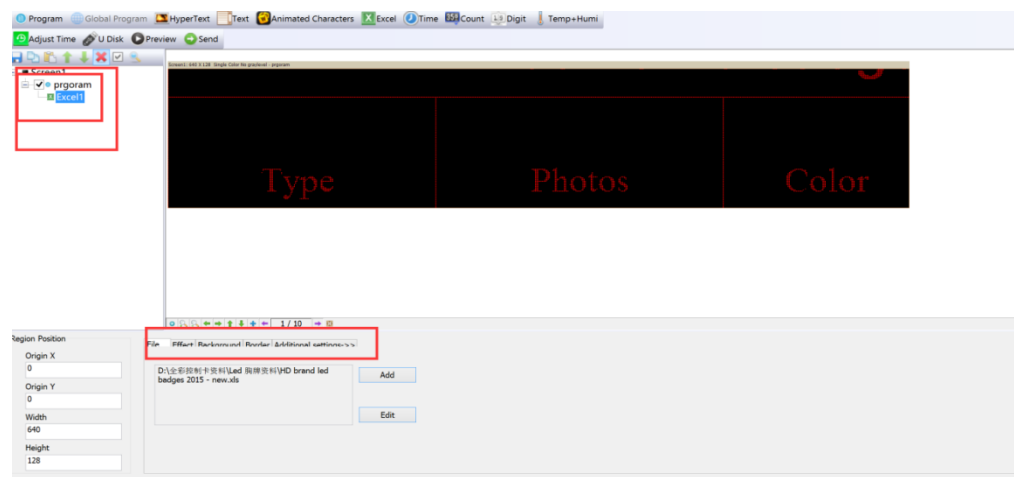
5.4 Excel showing

In display, it can show Excel sheet.

Reference 4.1 and 4.2 content, and set up Screen----Program;

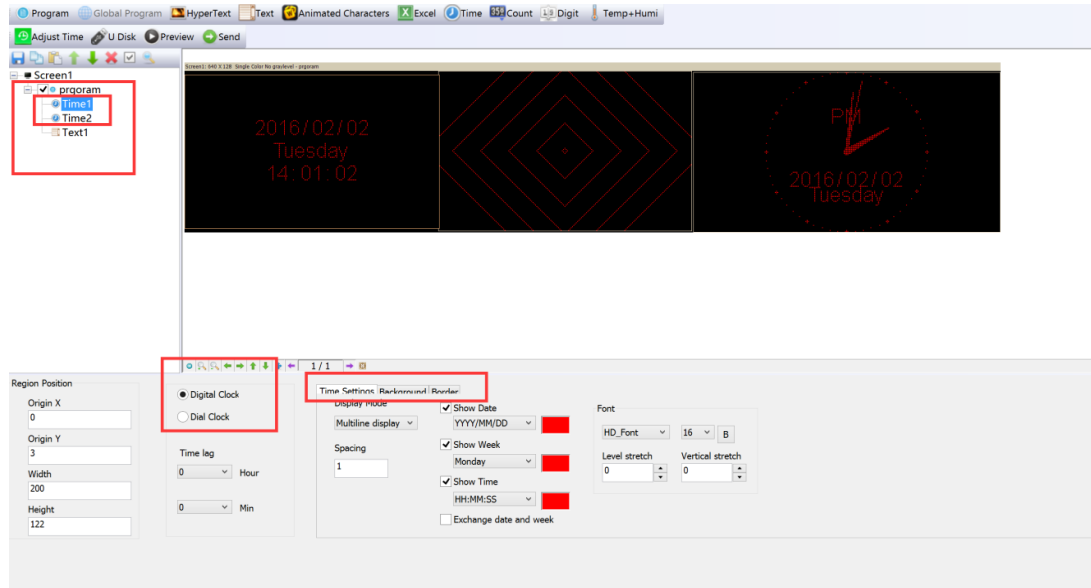
Click subtitle choose Excel, appear animated characters area (Freely setting coordinate、 length、 width)

For Excel showing, it need install the full version of Microsoft, then Loading can be properly. It can be Horizontal screen-shots and Vertical screen-shots.



5.5 Time showing (Calendar time and dial plate)

Reference 4.1 and 4.2 content, and set up Screen----Program click Time area
Or Click subtitle time, appear time region (Free setting coordinate、 length、 width)
it is easier setting, as picture:

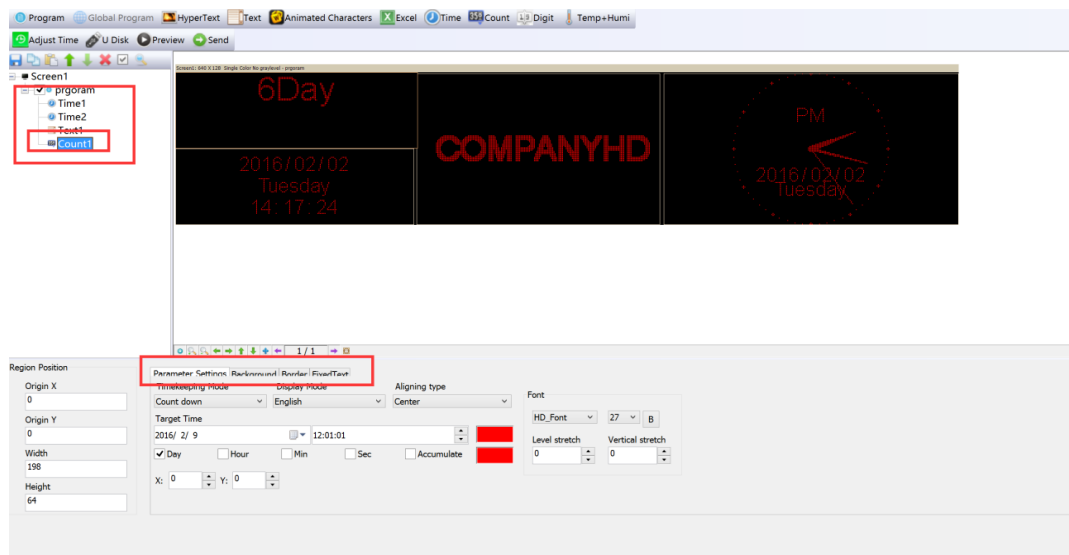


5.6 Count up and count up display

1).Display showing count up and count down, and use button count up and count down

Reference 4.1 and 4.2 content, establishing Screen----Program-Count;

2).Click subtitle timing, appear Count area (Free setting coordinate、 length、 width)
Support circle Count, that is meaning Countdown been finished, then automatic reset and Starting again.

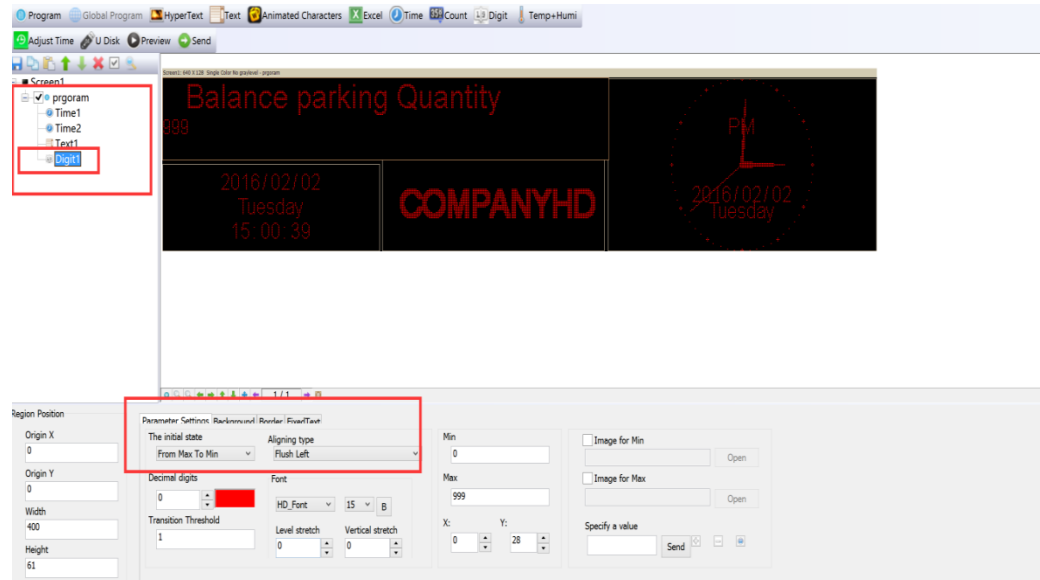


5.7 Digit showing

Showing digit number, mainly used in parking place etc

Reference 4.1 and 4.2 content, Set up Screen----Program-Digit.

Clicking Digit, appeared Digit area((Free setting coordinate、 length、 width) as picture:



The initial state is from Max to Min, or from Min to Max. The decimal digit can set how much add or how much less. Also it can add the minimum and maximum values picture. The largest value can set to 9999999, decimal digits can set 3 numbers.

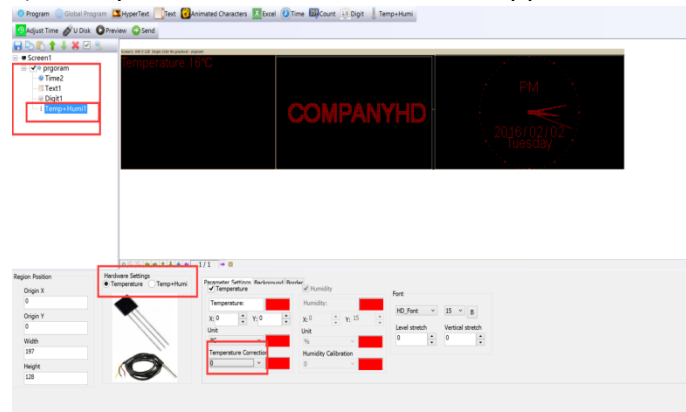
5.8 temperature and humidity showing ,need weld sensor

1). LED display showing current environment temperature.

Reference 4.1 and 4.2 content, set up Screen----Program- Temp+ Humi;

2).Or Click Temp+ Humi, appear areas((Free setting coordinate, length, width) , temperature and humidity have different sensor. As picture:

3) Weld place in P5 on controller, the appendix show details weld ways.

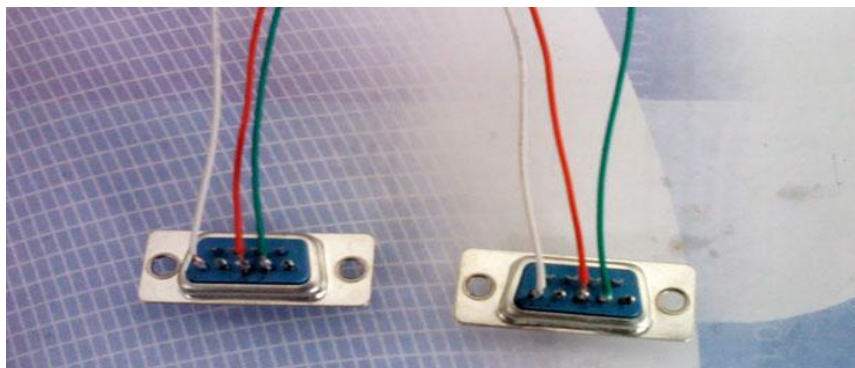


Through above5.1-5.8, user will know our software can set multiple function and multi-areas content. It will meet LED display on every scene application.

Chapter 6 Communications setting

6.1 Making serial port cable

Our system use straightway RS232 line, finished line as follow:



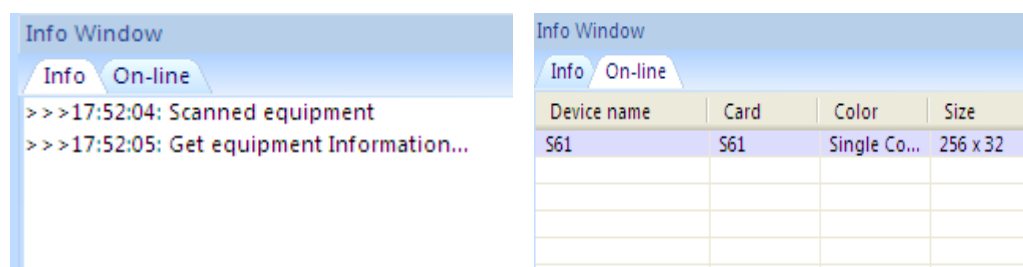
6.2 Communications setting (serial port)


Serial port connection have two types: RS232 and RS485.

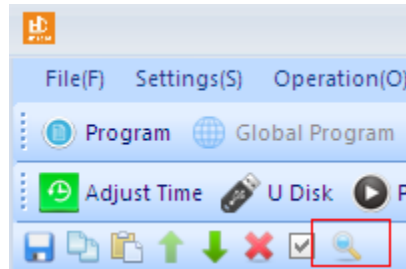
6.2.1 RS232 communication

1).RS232 communication Serial Connection, after installed the driver successfully, then found current device. Ours RS232 driver is HL340.

One computer only connect one serial port card, after the software found device automatically, in File-screen parameter setting and choose current device name, then can send parameter and program. As picture show

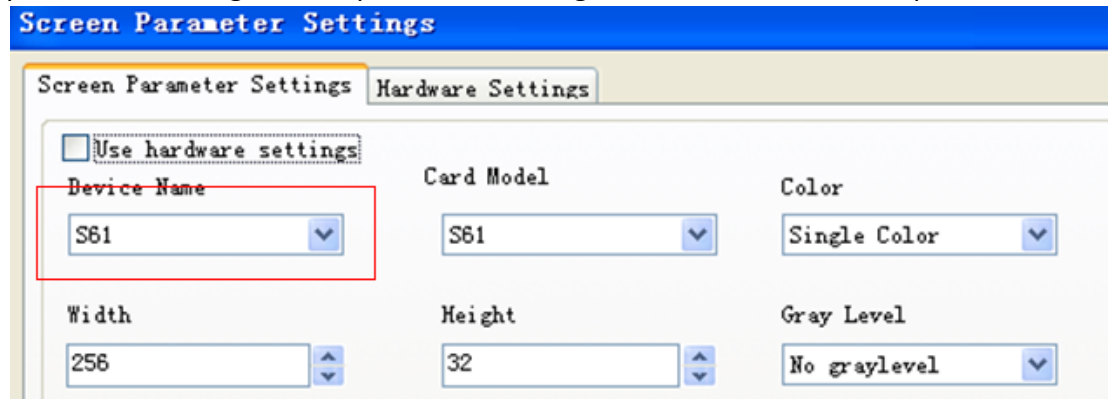


2).If software can't find device, please click , location as picture show:



3).If user still not find device, please check connected serial line.

If current information window notice "selected screen not binding equipment ", please into setting "screen parameter setting", select device name, as picture show:



6.2.2 RS485 communication

1) Solution: 485 communication serial port connected, and it need 485 converter.

One computer can connect multiple 485 communication serial port cards.

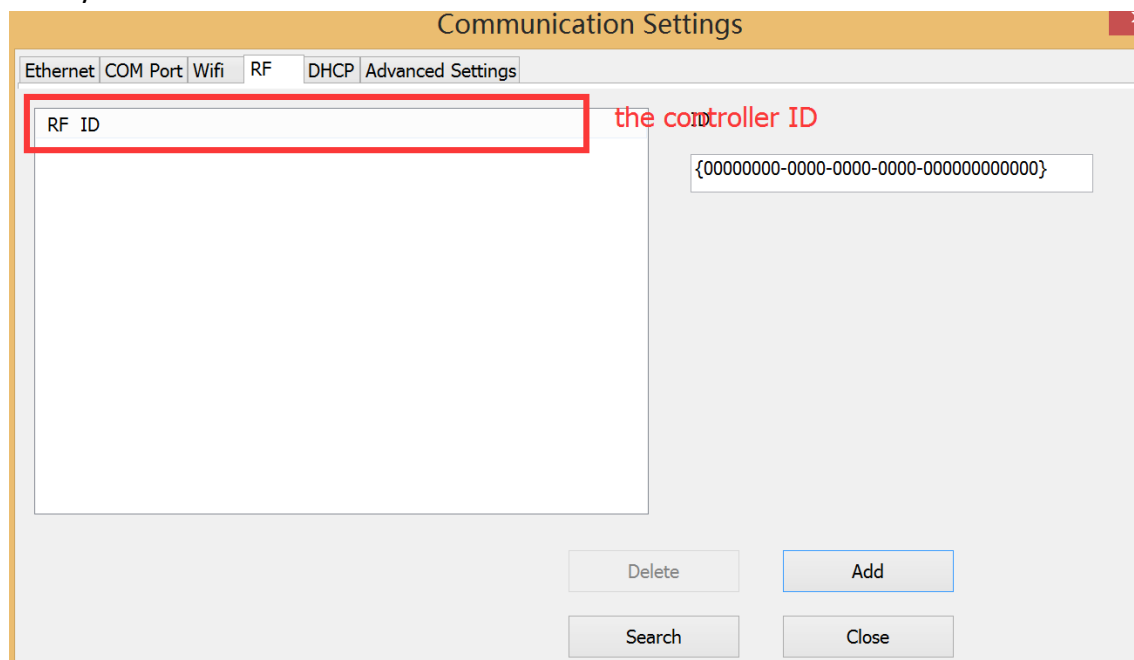
Connection method as follow:

Converter Positive pole (+) connected with control card square hole, Converter

Negative pole (-) connected with control card on 485 in middle hole.



2).When first time connected multiple 485communication card, one time only connect one card, then into HD2016 software communication setting interface click “search”, Add control card ID to HD2016. As picture show: This operation it need one by one PCS control card



3).When all the device ID added to software, and connected all the control cards together, click Search, user can find all the control cards.

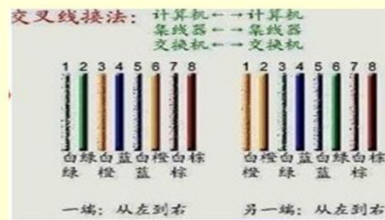
6.3 Making Network cable1)

1). Making Network cable have 2 ways: cross cable (control card connected with computer directly) and parallel cable (control card connected with router)

The Network cable is Cross-line, usually A-B line

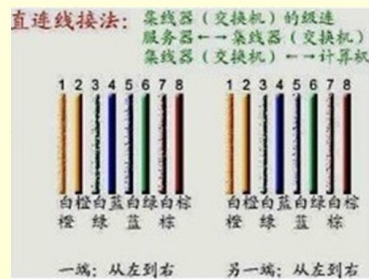
Standard 568A: green-white-1 green-2 orang-white-3 blue-4
blue-white-5 orange-6 brown-white-7 brown-8

Standard 568B: orange-white-1 orange-2 green-white-3 blue-4
blue-white-5 green-6 brown-white-7 brown-8



The Network cable is Parallel-line, usually A-A line

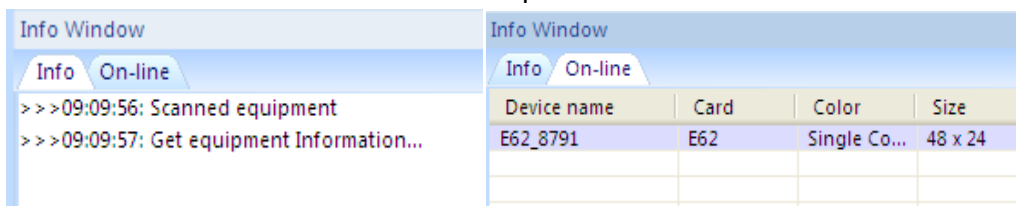
Standard 568A orang-white1 orange-2 green-white-3 blue-4
blue-white-5 green-6 brown-white-7 brown-8



6.4 Communications setting(internet access)

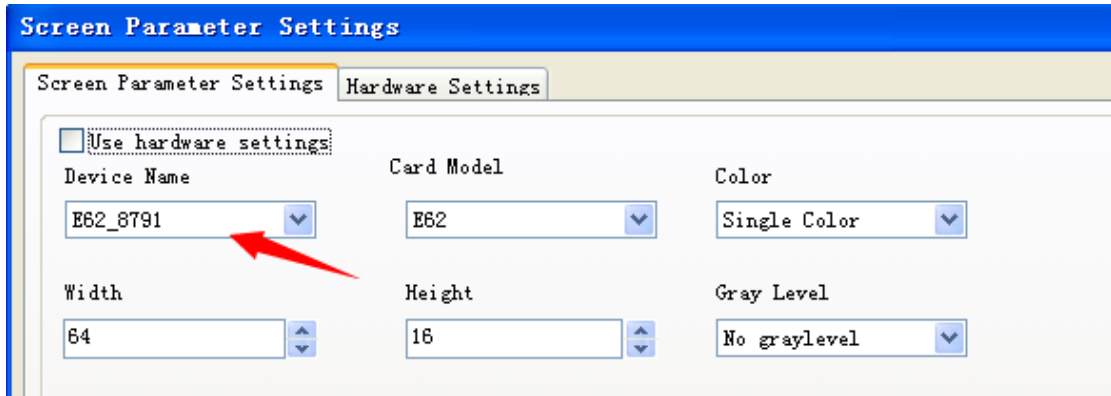
6.4.1 LAN single card (HD-E63) communication

Method: No need any setting, stand-alone straightway connect control card, on information window will find device. As picture show:



Note: If current information window notice “selected screen not binding device”,

please into setting-screen parameter setting, and selecting device name, as picture show:



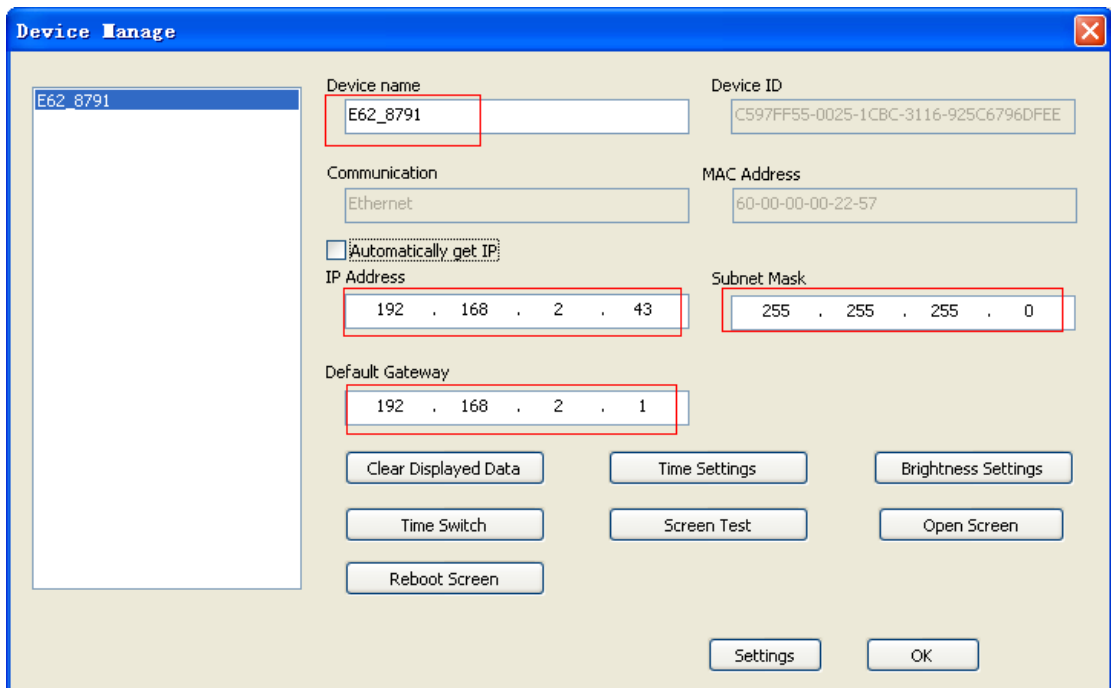
6.4.2 LAN multiple Network card (several like HD-E63 cards)

communication.

Method: 1).When multiple Network cards connected, modifying the control card IP same with current LAN Network segment.

Click Operation-Device manage, revised the control card IP address and device name

Note: after revised, and click settings



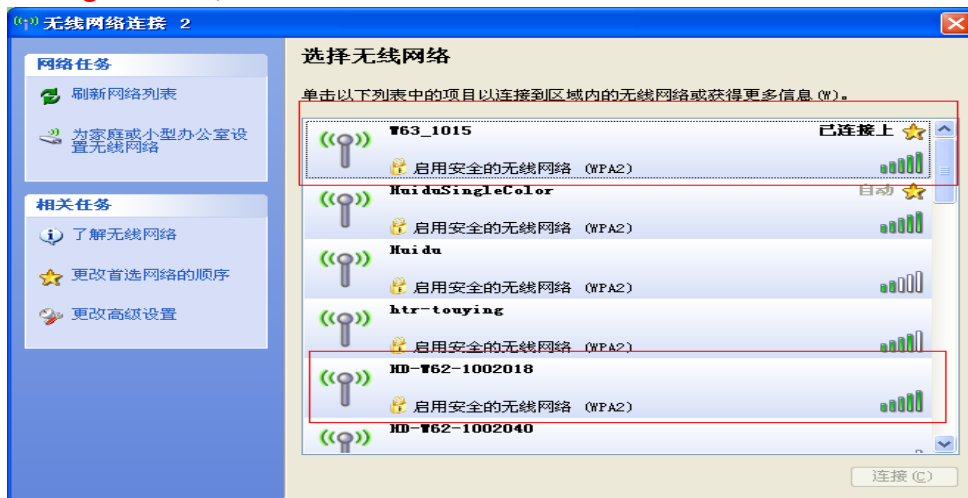
6.5 Communication setting (WIFI Wireless controller)

6.5.1 Only 1PCS WIFI card connected

1) Only 1PCS WIFI Card connected, first connected the WIFI signal of the controller as below (The WIFI signal come out automatically)

Note: The current using PC need have WLAN card. If use Computer, it need buy WLAN card; If use Laptop, usually itself have WLAN card)

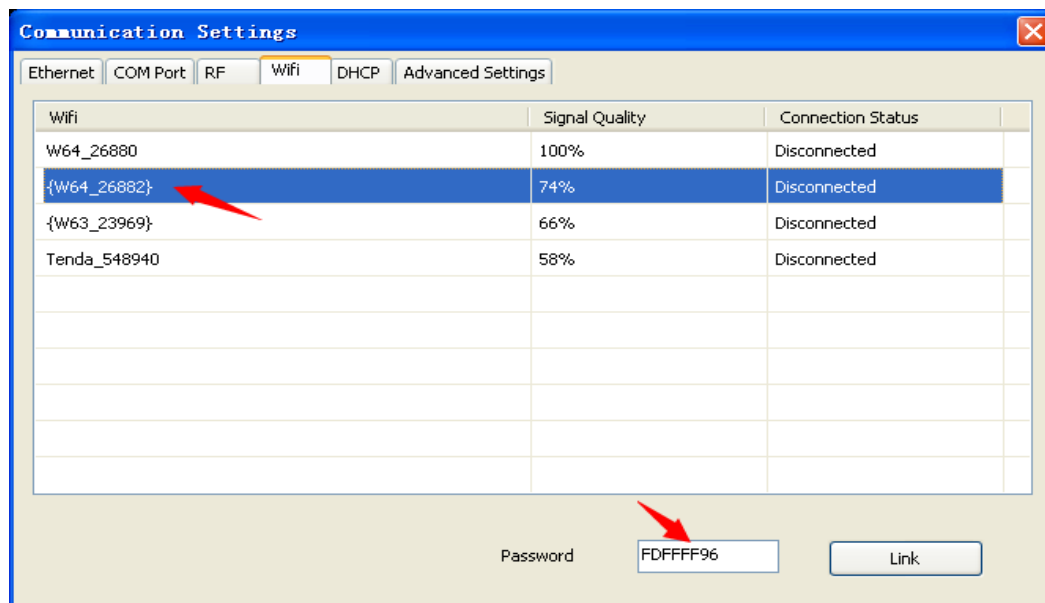
Showing as below, connected 3PCS WIFI card



2) The WIFI Signal default password “88888888”, in HD2016, no need written password

Showing as below, Click “LINK”, and connect automatically by password 8888888, also password can change.

If current WIFI of SSID showing “{ }”, for example {W64_26882}, then only check the WIFI Password in HD2016 software.



3) After connected the WIFI, in software it can find the device.
Showing as below: came out the device name information

Info Window		
Info On-line		
Device name	Card	Color
W64_1056	W64	Single Co...

4) In setting-screen parameter settings, selected the current device, and send out to display

Note: If Current display showing normal, no need go to Hardware settings

If Current display showing abnormal, click Setting- Hardware setting

(For common display, just click Setting-Hardware setting-Commonly smart;

For uncommon display, it can click Setting- Hardware setting-Additional settings
–Smart setting)

6.5.2 More WIFI cards Connected

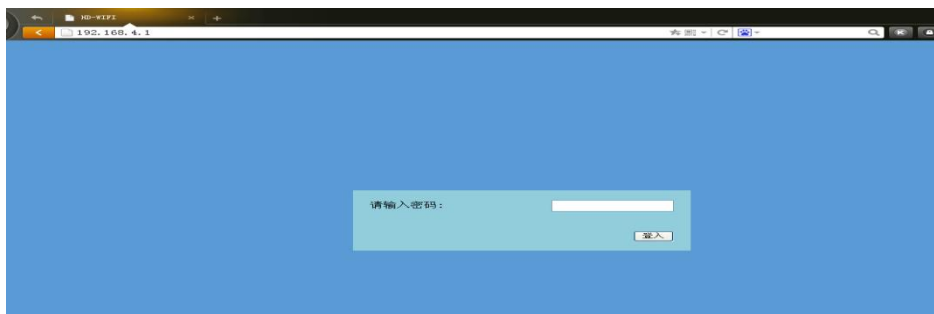
More WIFI cards connected, it need each card connected the Remote Router.

Meaning it need a Router. The operation ways as below

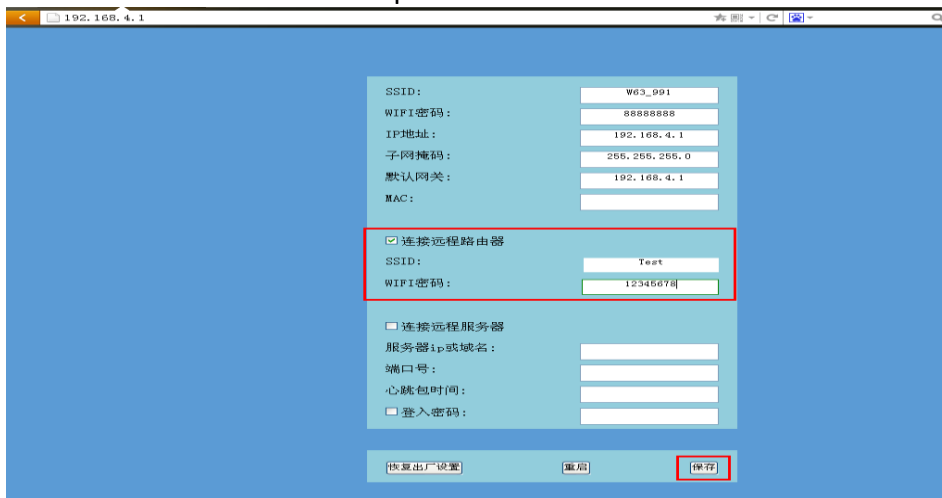
1).The PC recognized the WIFI signal automatically, and operation reference above One WIFI card.

2).The WIFI card connected the Remote Router, the ways as below

①Open the Browser, and written 192.168.4.1, then insert the pages, password 168.



②Insert the Remote Router SSID and password



③The PC connected the WIFI signal, and open HD2016 Software, it can find All the WIFI cards.

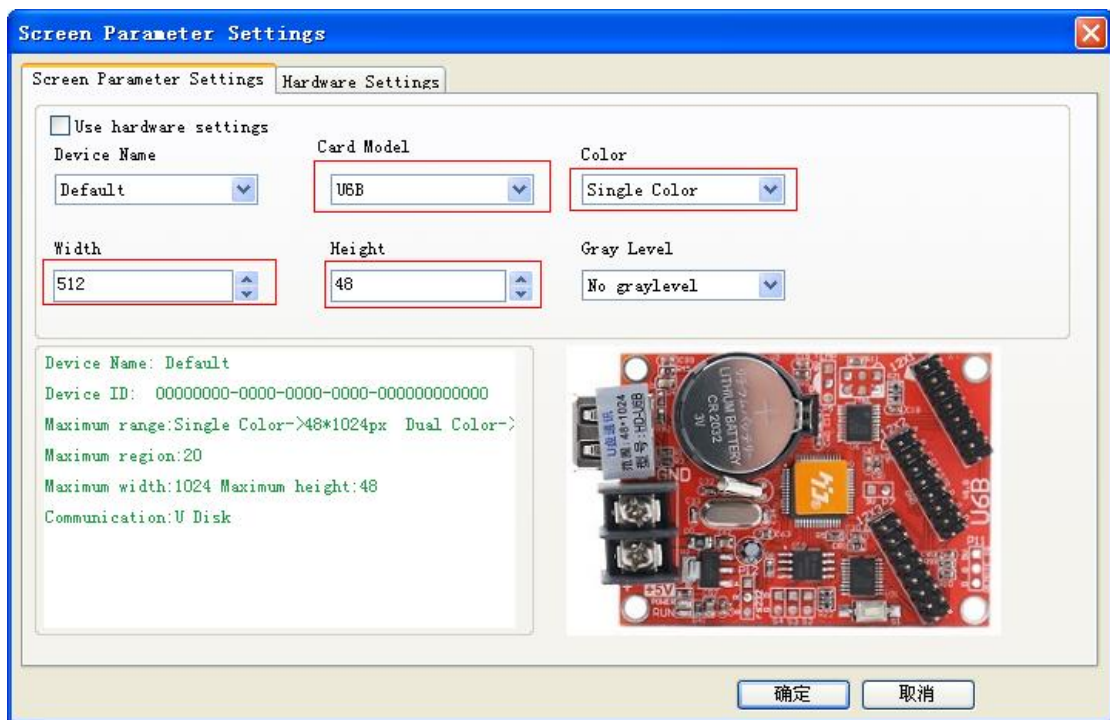
6.6 U-disk Controller operation

U-disk controller no need install lines, and is convenient.

Note: First time use U-disk Controller to Export program, it need select the “export the parameters”

For example P10 Single color module

1) Open HD2016 software, click File-New screen -screen parameter settings .Setting the Width、 Height、 Color、 Gray level etc

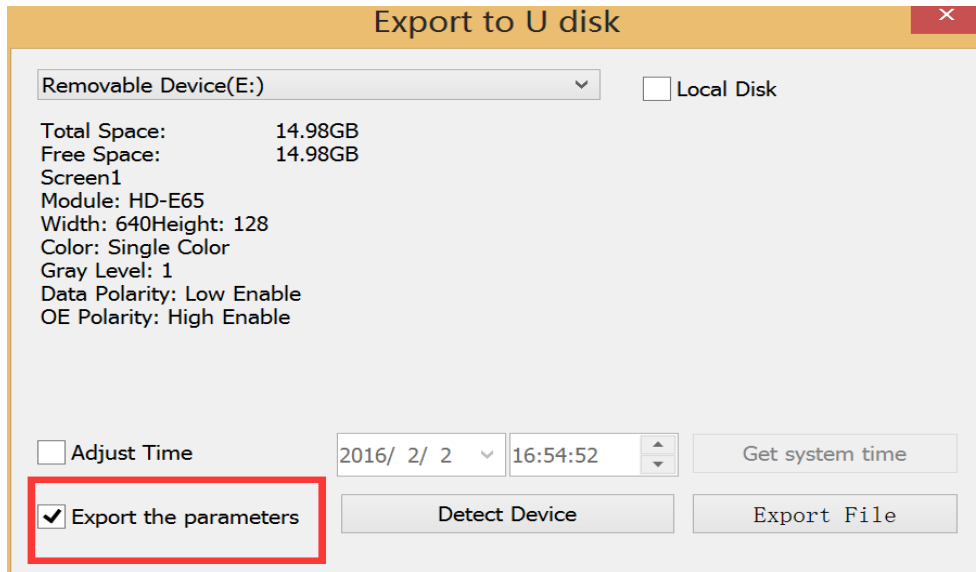


2) Hardware setting parameter

Note: If current display showing normal, no need into hardware setting.



3) Then add program of text、 Hypertext、 Animated character、 Excel、 Time etc
Click U-disk to export program.



Note: First time use U-disk Controller to Export program, it need select the “export the parameters”.

Next time for showing normal, no need select

Appendix 2 The normal setting in using period

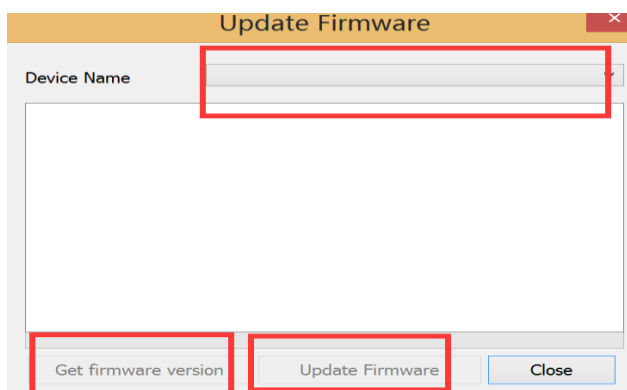
Appendix 2.1 Controller updated firmware ways

Updated firmware mainly used in function updated or revised big bug. Usually no need updated firmware. The updated ways as below:

- 1) Download firmware of.bin file (each controller have.bin file)
- 2) Click Operation-update firmware (Password 168), select the .bin file.
- 3) Updated firmware by RS232 or 485or LAN,

U-disk controller updated by U-disk (Putting the firmware to U-disk and insert to controller, like updated program)

Note: In update period, the display can't power off and can't pull out the RS232 Line or LAN Lines



Appendix 2.2 The controller how to renew factory setting

There have 2 ways (hardware renew and software renew)

Hardware renew: power off the electronic- Press the TEST Button and at the same time power on the electronic, hold on 6 seconds and no loose —Then loose the button –The controller renew the factory setting.

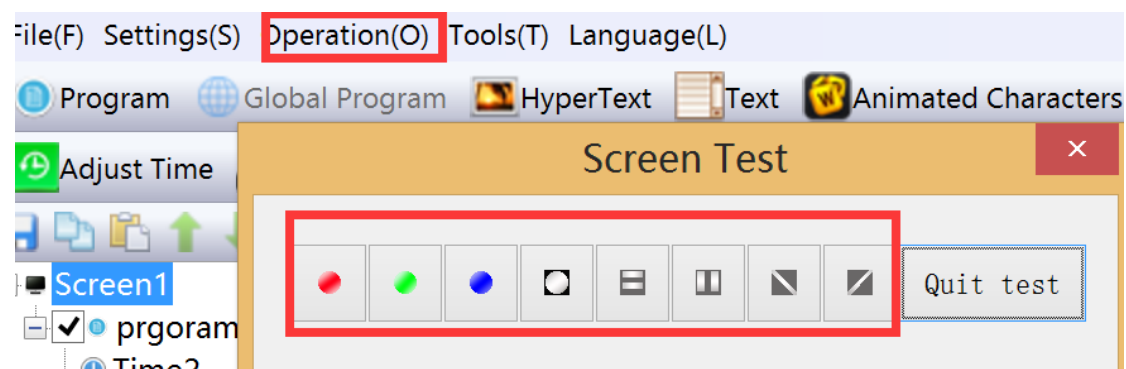
Software renew: Operation-clear display data(Note: This step need communication well)

Appendix 2.3 How to test display

There have 2 ways (hardware test and software test)

Hardware test: when adjust the display working normal-- press the TEST Button (the electronic need power on) and hold on 6 seconds --when into testing status, then loose – Press 6 times and come out different 6 testing modes

Software test: Operation-Screen Test.



Appendix 2.4 The display time switch

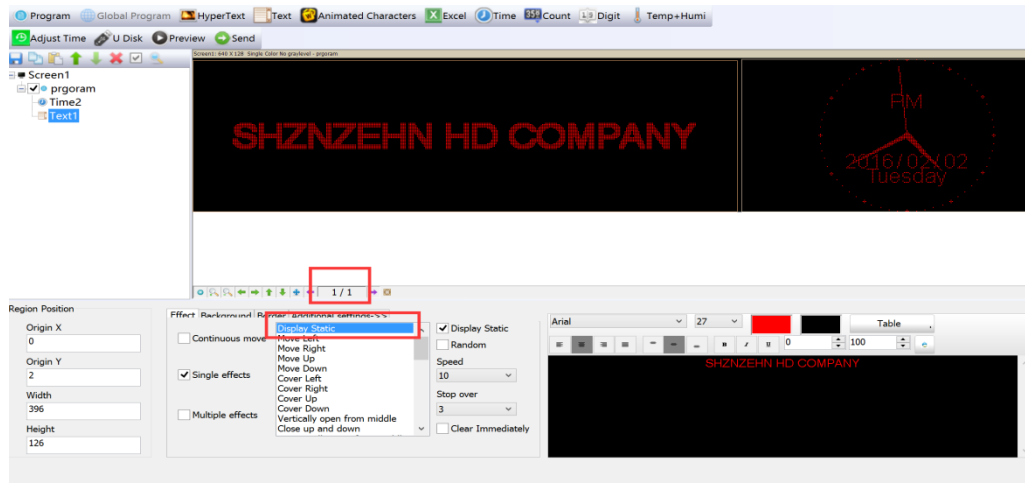
The display time switch of Boot up and Shut down reference 4.1

Appendix 2.5 The display play program by Time

The display play program by Specified date and Specified time. Reference 4.2

Appendix 2.6 How to set Text static and no moving

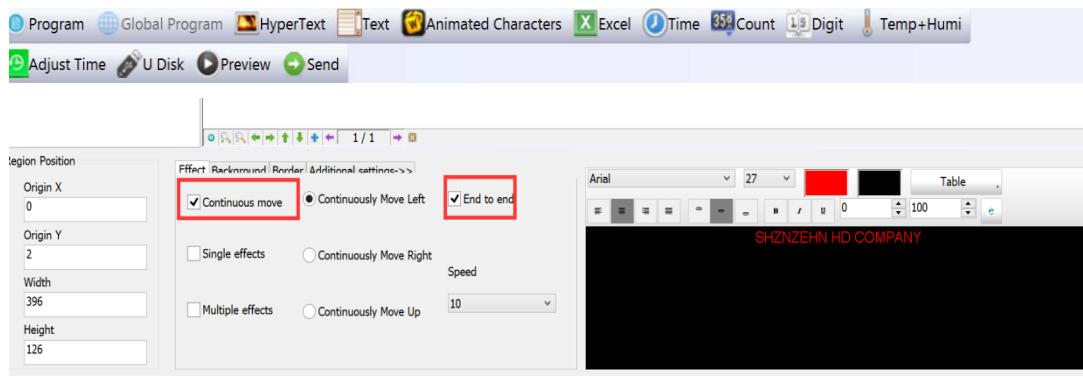
Ways: In Text-effect- select Display Static, the program page 1-1



Appendix 2.7 Text continue moving and no stop

In Program – Text - select Continuous move and End to end (Continuous move left or Continuous move right or Continuous move up) .

If not select End to end, the text showing continuous after SPACE Key.



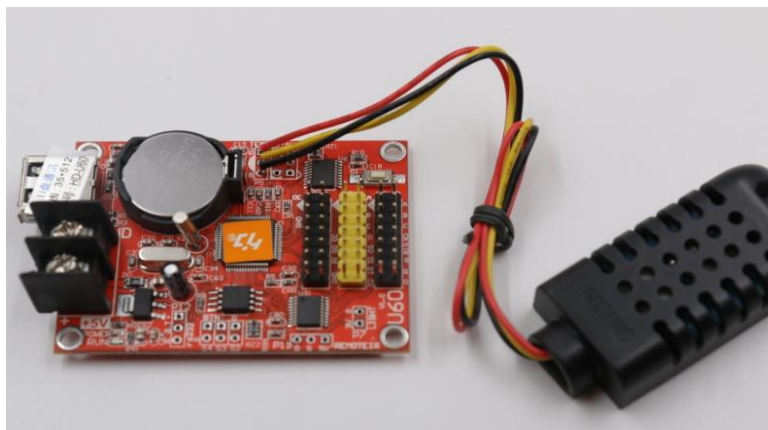
Appendix 2.8 Temperature 、 Temperature +Humidity sensor

1).Temperature +Humidity sensor

Weld place in P5. Red line connected Positive (+) of Square pin,

Yellow line connected Middle pin

Black line connected the Third pin



Sensor

The Temperature+ Humidity parameter

Type: AM2301

Working voltage: 4.2-5.2V

Testing humidity range: 0-100%RH

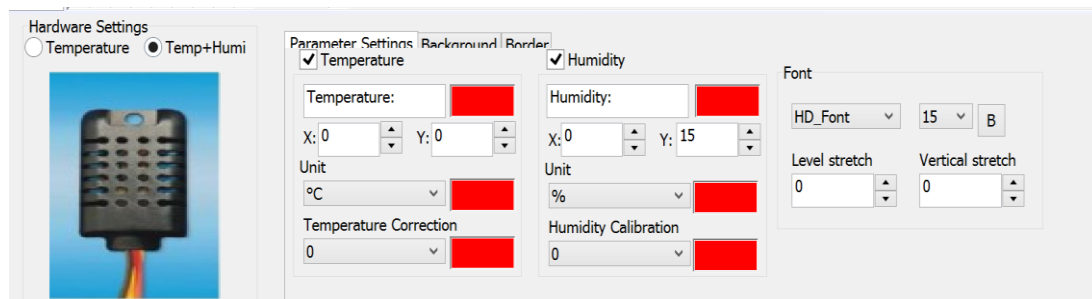
Testing temperature range: -40—80℃

Testing humidity precision: ±3%RH

Testing temperature precision: ±0.5℃

2).Setting in software of Temperature +humidity

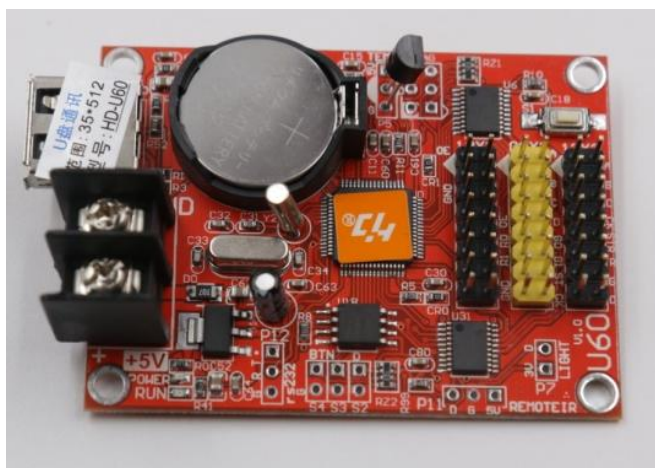
- ①In Program- Temp+Humi, reference 5.9 of area setting
- ②Setting the Temperature+ humidity parameter. It can set only show temperature or only humidity. **One program only set up 1 area of Temp+Humi**
- ③If Temperature and humidity not precisely , it can adjust by Correction
- ④Support background and border



2).Temperature sensor welding

- ①Non-temperature sensor welding

Weld place in P5, and the sensor Round side direction to Battery of Positive
(The Square Hole is Positive)



Type: DS18B20

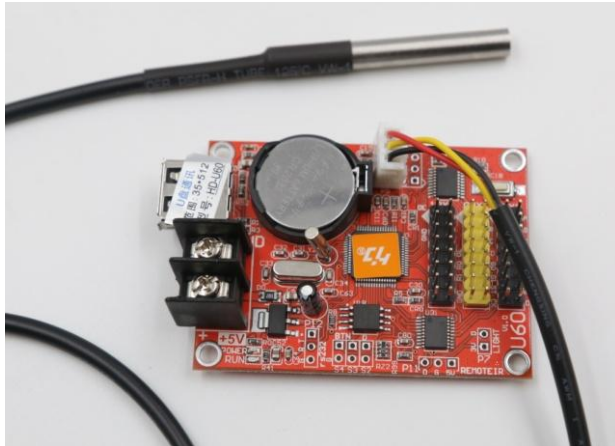
Working voltage: 4.2-5.5V

Testing humidity range: -55--125℃

Testing humidity precision: ±1℃

- ②Waterproof sensor welding

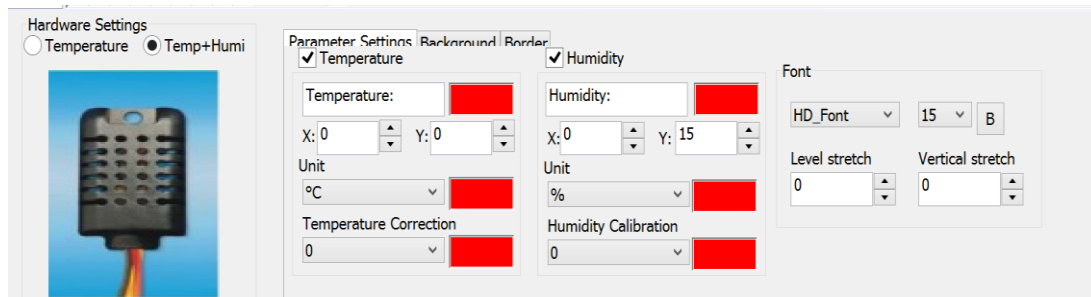
Welding place in P5, the sensor red lines connected Positive (the square hole)
 The yellow lines connected in middle
 The black lines connected in third



Type: DS18B20
 Working voltage: 4.2-5.5V
 Testing temperature range: -55--125°C
 Testing temperature precision: ±1°C

③Setting Temperature in software

- I. In Program- Temi+Humi- Temperature
- II.Setting the temperature parameter: only one program setting 1 area of temperature
- III.If Temperature showing not precisely, it can adjust by Correction
- IV.Support background and border



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