LED DISPLAY VIDEO SCREEN

Installation and Calibration Manual

DMX Technologies

www.dmxtec.com

Product Model: PH16mm Full color

Size: 15.79 square meters

Date: 2008-05-25

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Preface

Thank you for purchasing LED display from DMXTEC. We are submitting the instructions in order to help you to make it easy when installing or use.
Please read this manual in detailed and carefully before installation.

This document is subject to changes without notice and all right reserved.

1. Safety precaution

Warning   Suspended loads   hard hat   Mind your fingers

- Be aware of the suspended loads；
- Wear a hard hat to reduce the risk of personal injury；
- Mind you fingers while working with heavy load；
- The screen must be installed by experienced professional and keep the screen power off before switch on the computer；
- The control computer must be used by the screen only, and make sure to keep the computer far away from the virus' attack；
- Connect the screen with the computer reliably, any flexible connection maybe lead to the screen display abnormally, so please don't touch, draw and push down the cable；
- The safety of installation place, frame work, installation, collection, use, separation and transportation must be approved by authority；

2. Installation Screen

2.1 LED module dimension
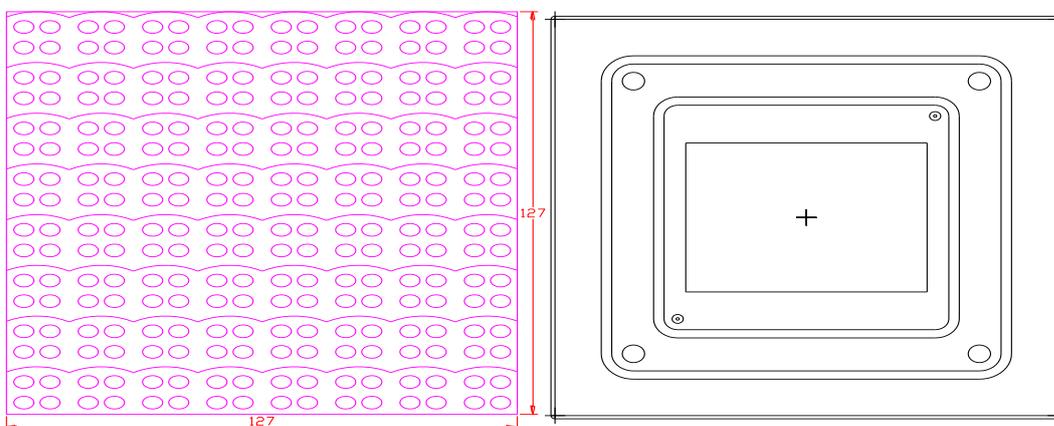
2.2 Cabinet structure
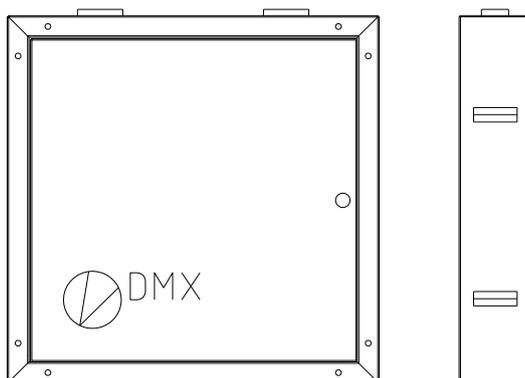
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21Rec	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

Back view

2.3 Data cabling diagram (See the PDF file)

2.4 Power cabling diagram (See the PDF file)

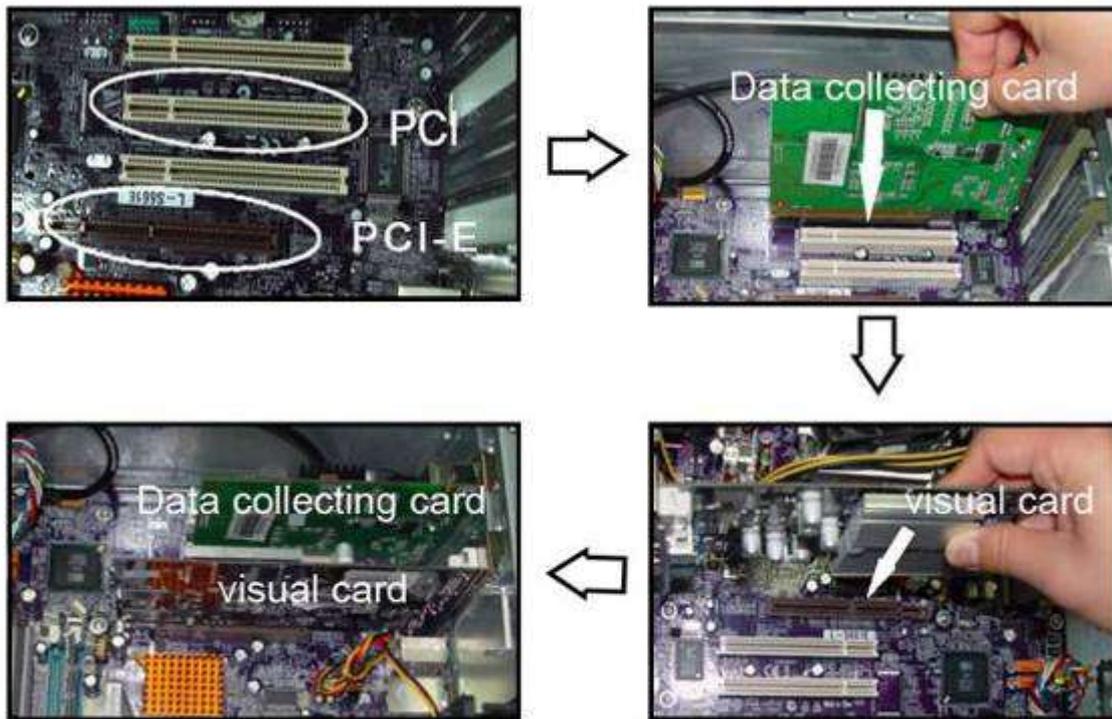# 3. Hardware/Software installation and setup

3.1 Visual Card and Data Collecting Card installation

Please operate as illustrated in below figures

3.1.1 Open the computer cabinet, and find out the slot of PCI and PCI-E in main board

3.1.2 Insert the data collecting card into the PCI slot

3.1.3 Insert the visual card into the PCI-E slot

3.2 Connection between computer and screen

Operate as below step by step:

1、Connect computer to data collecting card with a RS232 Serial cable (White, provided) , the end of the DB9-pin female interface to the com port and the RJ45 plug to the data collecting card.

2、Connect the visual card to data collecting card with provided DVI cable (Black).

3、Connect the data collecting card to the 1st receiving card with provided network cable (Grey).

4、Check the whole connection, if there is right then Configuration can be start now.
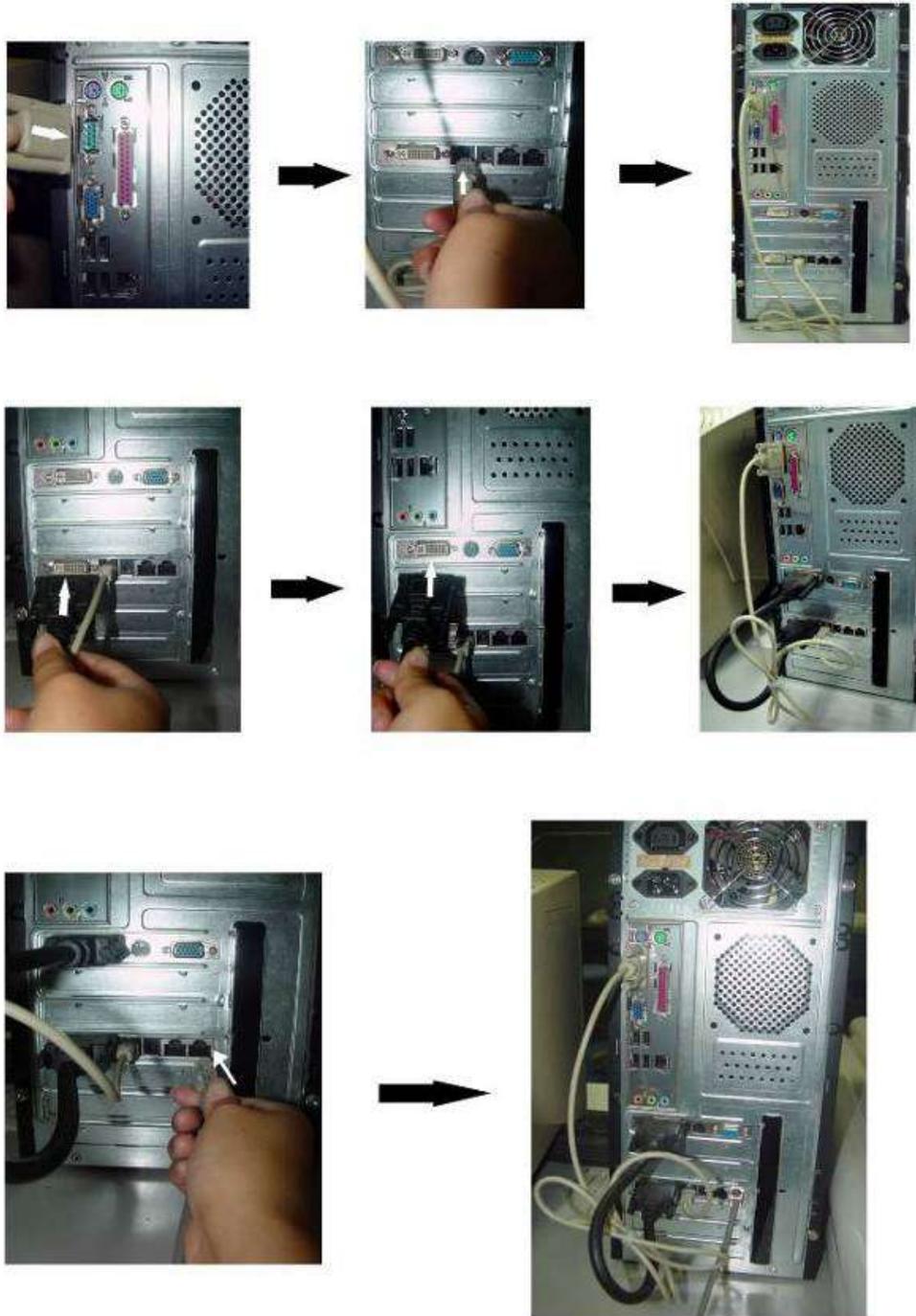
3.3 Computer configuration

Right click on the space of your desktop, appearing Figure3-1.

Figure 3-1

Figure 3-2

Select "property", appearing Figure 3-2, then select "option" and then "advance", appearing Figure 3-3. Then click on "display", appearing Figure 3-4. Click the red switch in it on FPD item, the switch will turn green, then press "ok".
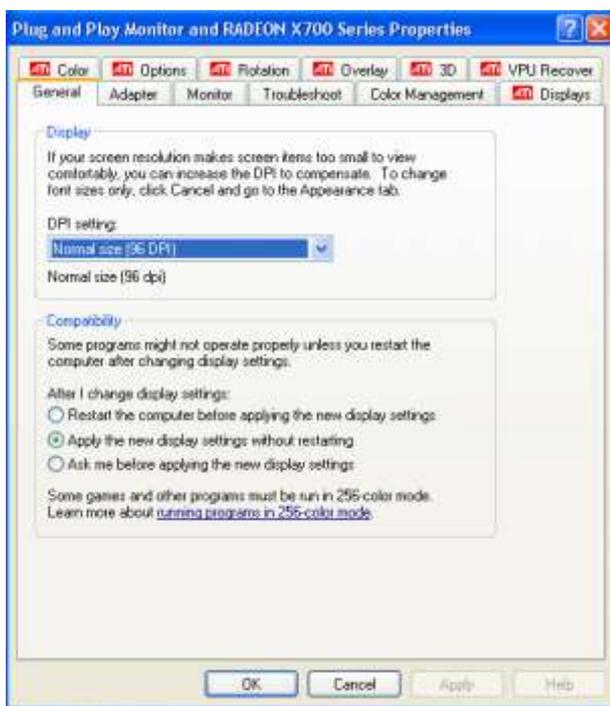

Figure 3-3

Figure 3-4

3.4 Software Installation and uninstall

3.4.1 LED Studio software Installation

"LED Studio" can be easily installed, as shown below:
Put the "LED Studio" installation CD into the CD-ROM, The Installation Menu will automatically pop up. (if not, then select this CD-ROM, double click it with your

mouse)Then select "Install LED Studio" to start the Installation Guide, as Shown in Figure 3-5. After that, simply follow the instruction on the screen. Note: This software is protected by a serial number. Please enter the correct serial number in order to process the installation. Please ask the products provider for the correct serial number.

After "LED Studio" software has been successfully installed, there will be a "LED Software" program group in the 【Start】/【Program】,then move to the "LED Software" under this program group, click to start. Also, there will be a "LED Studio" short-cup on your desktop. Also, you can start the program by double click on the icon.

Figure 3-5

3.4.2 Uninstall

"LED Studio" software provide an auto-uninstall function, for your convenience to delete all "LED Studio" files, program groups and short-cuts, users can either select "Delete LED Studio" under the "LED Software" group, or go to the 【control panel】, select 【add/delete program】 to undergo quick uninstall. (Uninstall window as shown in Figure 3-6, now select "Automatic" can delete all files, program groups and short-cuts.

Figure 3-6

3.5 Online calibration

3.5.1 Initialization setup

Enter setup dialog box

Click the "software setup", as shown Figure 3-7, and then will appear a dialog box, as shown Figure 3-8;
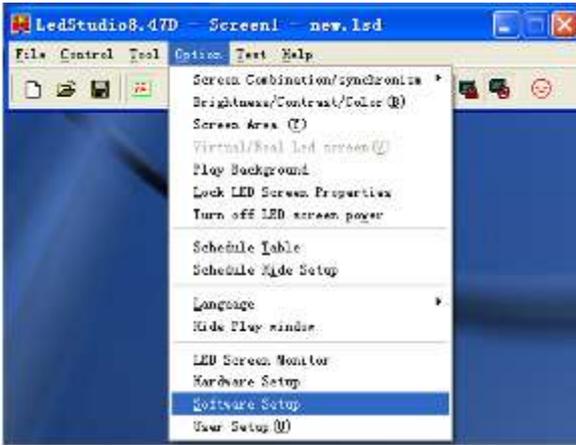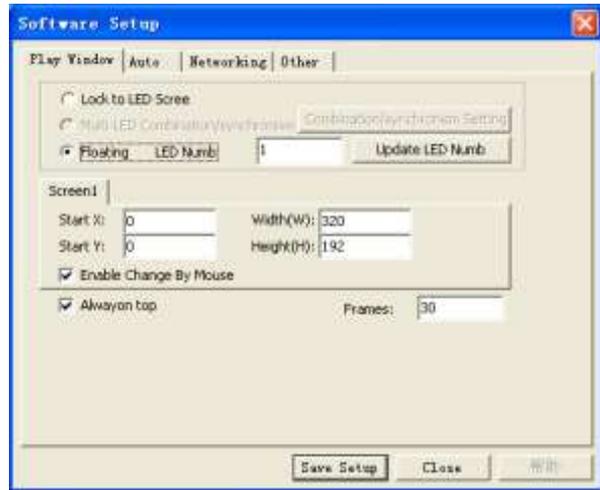
Figure 3-7

Figure 3-8

And then input "linsn" the 5 small letters.(computer screen shows nothing when inputting "linsn" by keypad.), appear a dialog box, as shown Figure 3-9 to prompt you to input the password "168", then enter setup dialog box. as shown 3-11
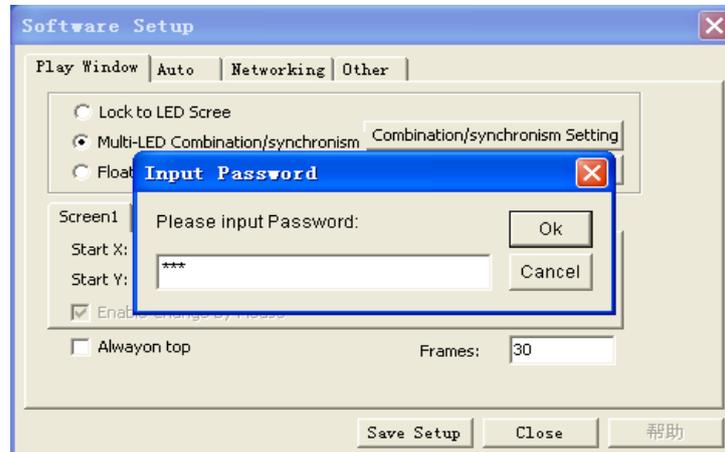
Figure 3-9
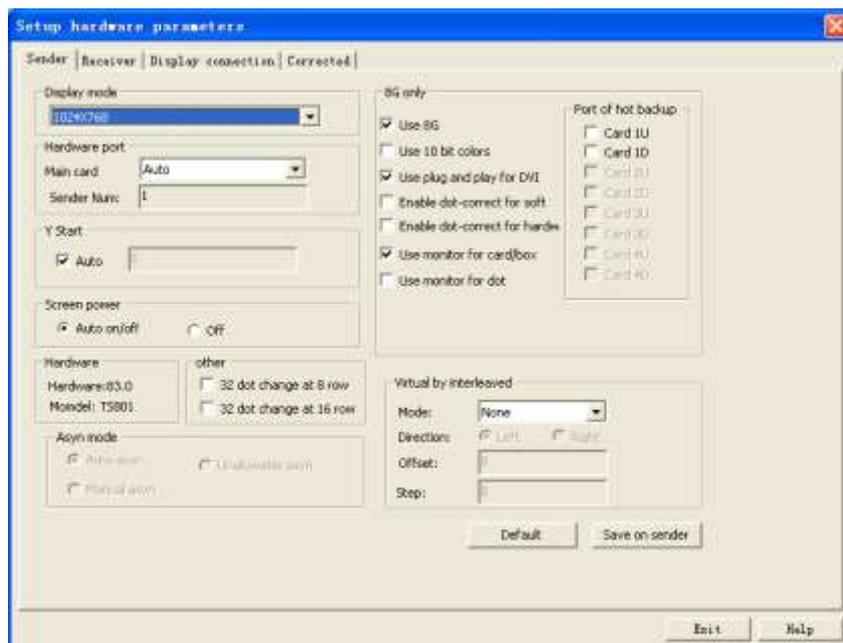
Figure 3-10

Sending card setup

The setup for the sending card is very simple; if your display is work normally under the 1024*768 mode, nothing changes; otherwise choose the right mode according your display, then click "Save on sender"

Receiving card setup

Select "Receiver", appearing a dialog box, as shown Figure 3-11, click "load from files", then select the provide file "setting.rcg". Then click "send to receiver" and then click "save on receiver".

Figure 3-11

Display connection setup

Shown in Figure 3-12, click "load from files", then select the provide file "settings.con". Then click "send to receiver" and then click "save on receiver".

Figure 3-12

4. Parts replacing and maintenance

4.1 Parts replacing

4.1.1 Replacing LED module

The steps as below:
Confirm the certain module which need be replaced ;
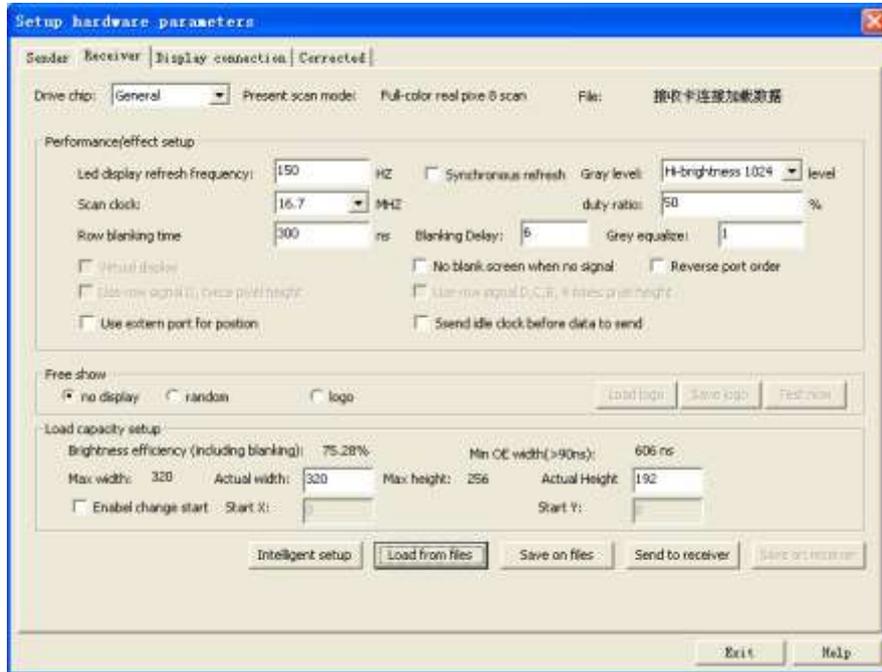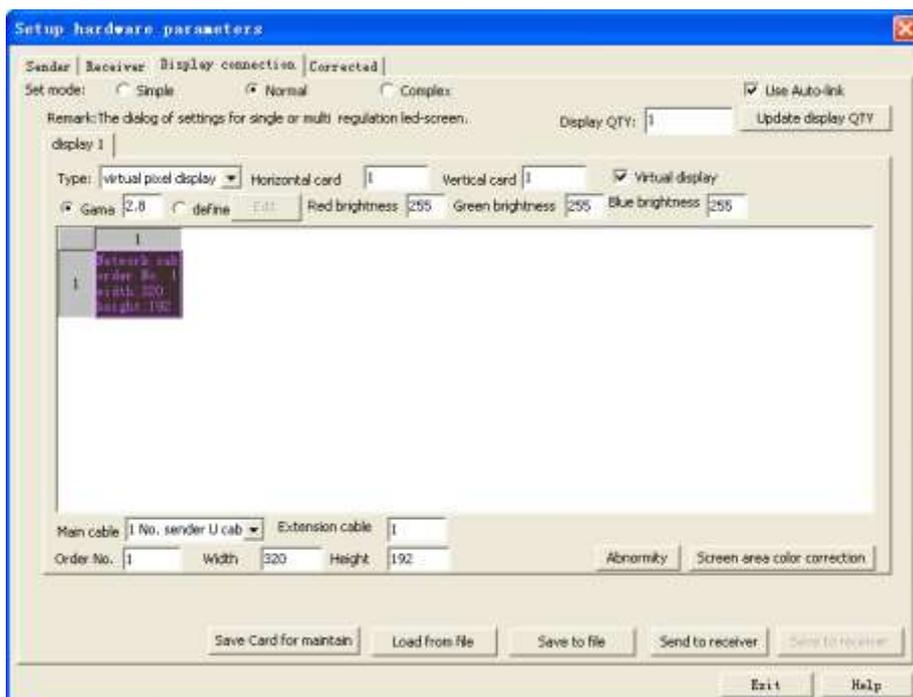Power off the LED screen;
Open the cabinet and disconnect the cable between the module and drive board;
Unscrew the defective module from the screen cabinet;
Replace the new module; make sure the direction of the new module is same as the original ones;
Fix the new module;
Reconnect the cables between the new module and driver board;
Power on the LED screen to check the replaced module.

4.1.2 Replacing drive board

The steps as below:
Power off the LED screen;
Disconnect the flat cables and unscrew the defective drive board from the screen cabinet;
Replace the new drive board, make sure the arrow marked in the drive board is same as others;
Fix the new drive board and connect the flat cables.

4.1.3 Replacing switching power supply

Power off the LED screen;
Disconnect all power cables of defective switch power;
Replace the new switching power supply, make sure the positive and negative and ground poles in the correct connection.

4.2 Attention and maintenance

Proper grounding of the installation is required

Keep the joint place of installation dry and water-resistant, set up a good drain system to drain the water smoothly.

Install lightning conductor on the building or the screen so that to avoid lightning strike.

Earthed the screen and the frame work, the earthed resistance should be less 3Ω to ensure discharge the lighting current in time.

The maximum ambient temperature of the screen is 40℃, the minimum temperature is -10℃

4.3 FAQ

1. The signal "demo" appears on screen occasionally

Probably caused by

（1）Connection failure between PC Serial COM port(RS232) and data collecting card.

（2）COM port is damaged

（3）Cable which connected with RS232 is damaged

（4）Incorrect configuration in hardware port of sender card

Solutions:

（1）Reconnect cable with PC COM(RS232)

（2）Change computer or repair the PC COM port

（3）Use new cable

（4）Modify the "hardware port" (open led studio-option-software setup-sender) to Auto or com1

2. Dialog box with "control system not found" is appeared when run LED Studio

Probably caused by

（1）Connection failure between PC COM(RS232) and data collecting card

（2）PC COM is damaged

（3）Cable which connected with RS232 cable is damaged

（4）Incorrect configuration in hardware port of sender card

Solutions:

（1）Reconnect cable with PC COM(RS232)

（2）Change computer or repair the PC COM

（3）Use new cable.

（4）Modify the "hardware port" (open led studio-option-software setup-sender) to Auto or com1

3. One row on a module or a cabinet doesn't work or works abnormally

Probably caused by

（1）Connection failure between driver and module.

（2）The relevant cable is damaged

Solutions:

（1）Reconnect the driver with module

（2）Use new cable

5. Trouble shooting

5.1 Control system
5.1.1 The whole screen doesn't work or works abnormally

Probably caused by

（1）Computer is power off.

（2）Connection failure between the data collecting card and the receiving card.

（3）Installation failure of data collecting card

（4）Connection failure of the cables between visual card and data collecting card or receiving card

（5）Inaccurate hardware setup in the LED video software

Solutions:

（1）Turn on the computer

（2）Reconnect cables

（3）Reinsert data collecting card

（4）Reconnect the cables among the visual card , data collecting card and receiving card.

（5）Correct parameters in "hardware setup"

5.1.2 Waver or doubling on the whole screen

Probably caused by

（1）Connection failure of cables between PC and display

（2）Connection failure of DVI between visual card and data collecting card

（3）Data collecting card is damaged.

Solutions:

（1）Reconnect cables or use new cables

（2）Re-connect DVI or use new DVI

（3）Use new data collecting card

5.2 Drive board

5.2.1 Unit cabinet doesn't work

Probably caused by

（1）No supply of +5V or GND

（2）Short circuit between +5V and GND

（3）No OE signal in 138chip

（4）Failure of OE signal which is connected with 245chip (open circuit or short circuit)

Solutions:

（1）Supply +5V or GND

（2）Cut the circuit between +5V and GND

（3）Supply OE signal

（4）Reconnect open circuit or cut off the short circuit

5.2.2 Half of a cabinet doesn't work or works abnormally

Probably caused by

  （1）No connection of the fifth OE signal in IC 138 chip.

  （2）Connection failure of SCLK and RCK signals between Pins and IC 245
   （open circuit or short circuit)

  （3）Connection failure between OE signals. (open circuit or short circuit)

  （4）Connection failure of SCLK and RCK signals between Pins and IC 245
   （open circuit or short circuit)

Solutions:

  （1）Connect the OE signal

  （2）Reconnect the SCLK and RCK signals

  （3）Reconnect the open circuit or cut off the short circuit

  （4）Reconnect the open circuit or cut off the short circuit

5.2.3 One row on a module or a cabinet doesn't work or works abnormally.

Probably caused by

  （1）Virtual weld or non-weld of the pins for this row

  （2）The pins of the row in IC 4953 are open circuit or other signals are short circuit

  （3）Non-weld of the resistance for other rows

  （4）No connection between 74HC138 output signals and the relevant IC4953, or another
   signal is short circuit

Solutions:

  （1）re-weld

  （2）Reconnect the open circuit or cut off the short circuit

  （3）re-weld

  （4）Reconnect the open circuit or cut off the short circuit

5.2.4 Two rows in a cabinet work coinstantaneous (one row works well and the other keeps bright without change when display letters)

Probably caused by :

  （1）The relevant signals are short circuit.

  （2）The output of IC138, resistance，module pins and the output of IC4953 are short
   circuit.

Solutions:

  Cut off the short circuit

5.2.5 Half of a cabinet displays in red, green or blue or just two colors only, or works abnormally.

Probably caused by :

  （1）Failure of input pins or short circuit of GND, +5V.

  （2）Connection failure between IC245 and input pins.（short circuit or open circuit）

（3）IC245 is damaged.

Solutions:

（1）Reconnect the open circuit or cut off the short circuit

（2）Reconnect the open circuit or cut off the short circuit

（3）Use new IC

5.3 Whole screen display problem

5.3.1 One row of whole display doesn't work

Probably caused by :

（1）Failure of the cable between the line and receiving card

（2）The signal input socket of the first driver in this row is damaged

Solutions:

（1）Use new cable

（2）Replace or fix the socket.

5.3.2 The rest columns of one row in the display work abnormally from NO. n column.

Probably caused by :

（1）Failure of the flat cable between the two data collecting cards which control No. n-1 and n columns separately.

（2）The relevant sockets in the data collecting card are damaged

Solutions:

（1）Use new cable

（2）Replace or fix the sockets.

5.3.3 Appear double or multi windows

Probably caused by :

（1）Configuration of the receiving card failure

Solutions:

（1）Double click the icon of the LED studio to open it –click "option"- click "software setup", input "linsn" – input passwords 168- then click "receiver" to enter into its dialog box – adjust the actual width and actual height in this dialog box – click "send to the receiver"- click "save on receiver"

（2）Double click the icon of the LED studio to open it –click "option"- click "software setup", input "linsn" – input passwords 168-then click "display connection"- adjust the parameters (refer to the led control system manual)- click "send to the receiver"- click "save on receiver"

5.3.4 LED virtual bright

Probably caused by:

LED refresh frequency is too low

Solutions:

Double click the icon of the LED studio to open it –click "option"- click "software setup", input "linsn" – input passwords 168- then click "receiver" to enter into its dialog box-modify the "Led display refresh frequency" to 300-400Hz   and the" scan clock " - click "send to the receiver"- click "save on receiver"

5.3.5 Data collecting and receiving card data indicated lamps doesn't flash

Solutions:

（1）Check the network cable

（2）Check the network cable is international standard or not? (The right is 568B 1:White orange 2: Orange 3:White green 4:Blue 5:White blue 6: Green 7:White brown 8:Brown)

（3）Right click on the space of your desktop- Select "property"- select "option" -then "advance" -click on "display" -Click the red switch in FPD item, the switch will turn green-press "ok"-restart your computer . Now it works

5.3.6 No relevant video on the display when playing video file

Probably caused by:

Configuration failure in the computer

Solutions:

Right click on the space of your desktop- Select "property"- select "option" -then "advance" -click on "display" -Press the button (red marked) in FPD item-click "ok"