LedSet User’s Manual

V2.6.1
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About LedSet

LedSetV2.6 is a software for setup only, such as generating .RCG&.CON file, brightness control and monitor, etc. For playing videos or pictures, please use LEDStudio.

1. Interface

After installing and launching LedSet on your computer, you will see the following interface.

![Figure 1](image)

**Figure 1**

*Note:* You have to connect the USB cable from PC to sending card **before** you do the setup (such as generating .RCG&.CON file, brightness control and monitor and etc.).

Official website: www.linsn.com
1.1. Option Menu

- **Screen Configuration**: to generate/adjust RCG/.CON file via sender/receiver/display connection interface
- **Brightness**: to adjust brightness/contrast/color temperature/Gamma manually
- **Calibration**: a calibration remote server, works with LED Correction (Linsn’s calibration software)
- **Lock LED Screen Properties**: to freeze what is currently being displayed on the LED screen
- **Turn off LED screen power**: works with multifunction board (EX902/EX906 and etc) to turn off the power of the LED screen; if no multifunction board connected, enabling this option will just turn off the video signal
- **Change password**: to manage the password for Screen Configuration and LedSet
- **Logout(E)**: to prevent others from changing the settings in Screen Configuration

1.1.1. Screen Configuration

1.1.1.1. Instruction to Sender/ Receiver/ Display Connection

- **Sender**
  
  **Note**: The key thing needs to be set on the sender page is **Resolution** when you are trying to set the sending card. Please adjust the resolution to the same as your
computer’s resolution. If you have video processor connected, please keep sender’s resolution the same as the processor’s output resolution. After everything is done, click **Save to sender**.

![Image](https://example.com/image1.png)

**Figure 3**

- **Hardware**
  If the sending card communicates with the PC well via the USB cable, information of Hardware and Model will be shown as in figure below.

![Image](https://example.com/image2.png)

**Figure 4**

If 00.DB and Unknown appears like the following figure, please check the USB connection before you do the setup.

![Image](https://example.com/image3.png)

**Figure 5**

- **Display Mode**
  This option is to set the resolution/frequency of the sending card. Commonly keep it the same as your monitor’s/video processor’s output.
Figure 6

- **Other options**
  - Enable Calibration: select it to use the loaded calibrating data
  - Monitoring Card/Cabinet: select it to enable the **Cabinet Monitoring** function
  - Enable LED Error Detection: requires the LED module to use pixel-detection IC and new type of receiving card
  - Enable Auto-adjust Brightness: select it to enable the auto-adjusting brightness function
  - Enable receiver read back: reserved
  - Broadcast receiver readback: reserved
  - Broadcast display connection: reserved

- **Screen Parameters**
  - Set width: use in some situation
  - Start X/Y: set the coordinate of the display area
  - Width/Height Coefficient: zoom in image of the desktop
  - e.g. If you have a LED screen whose size is 512*256 pixels, and the resolution of your monitor is 1024*768 pixels. For zooming in the image of the monitor to fit into the LED screen, you need to: a. Calculate width coefficient=512/1024=0.5; height coefficient=256/768=0.33. b. Input the width and height coefficient respectively. c. Click **Save on Sender**
  - Manual brightness: set the brightness adjustment scale for sender box
  - Screen power: **Auto on/off** is set by default
- **Rotation**
  Rotate the image that the sending card connecting to.

- **Receiver**
  
  **Note:** Do not click **Send to Receiver/Save to Receiver** if you are not familiar with Linsn’s control system.

- **Synchronous refresh**: Tick it to make the LED screen synchronize with computer, and refresh rate is multiple of graphic card frequency. If the module is using PWM IC, this option would be locked.

**Official website:** www.linsn.com
Scan clock: It depends on the design and performance of the module. The better performance gets by higher scan clock, resulting in longer width of receiver supports. Generally 16.67 or 18.75 MHZ is recommended.

Gray level: High gray level means high quality of display effect and stronger color expression of LED screen. Generally for dual-color screen 256 gray level is enough. For full-color screen, it is suggested to use 65536 (select high refresh mode in Gray mode).

Gray mode: This can be switch between high and low refresh mode, in low refresh mode the refresh rate is lower, generally high refresh mode for full-color screen is recommended.

Row blanking time: Effective value: 10-200000. If lower ghosting effect appears, changing this option can reduce it. Note: The higher low blanking time is lower brightness.

Actual width/height: Load the correct .RCG file, before you send it to the receiver; please make sure that the actual width and actual height are the same with the panel of one receiver carrying. For example, you have a panel with W96*H96 pixels, so you have to input W96*H96 in software.

Display Connection

- Display QTY: In most case just keep this to 1.
- Receiver No:
  - Horizontal card: enter the number of the receiving cards in width (try clicking on the text box and scrolling the mouse wheel)
Sender No/Network port/Selected Card information

- **Sender No.:** If there is more than one sending card connecting, please select the corresponding number.
- **Network port:** There are two ports on the TS802D sending card. The one next to the LED lights is U, and the other one is D.
- **Order No.:** The receiving card that connects to sending card directly is the No.1 card (Note: stand in front of the LED screen when checking the order).
- **Width:** Pixels’ width that one receiving card connects.
- **Height:** Pixels’ height that one receiving card connects.

Fill the above info depending on the real connection, click on a random square and the info will be filled out the selected square automatically.

**Official website:** www.linsn.com
**Figure 12**

- **Show Connection Lines**: select it to show the linking direction in lines
- **Single-point link**: set the order one by one by clicking the corresponding square
- **Quick link**:
  a. Select one of the eight direction modes below depending on the real connection

```
  Quick link
```

**Figure 13**

b. Click the first square (stands for the first receiving card of the area that you need to set), hold down the left mouse button and drag it until the desired area is covered with black.

**Figure 14**

c. Release the mouse and the rest of the square will be filled out
- Send to receiver: click it after you finish the setup
- Save to receiver: if the image is working on the LED screen, please click it to save the data to the receiver
- Save to file: you can also save the settings as a .CON file, so that you can just load the setting as you need it next time.

Note: go to page 14-16 to check how to make a .CON file.

1.1.1.2. What is .RCG & .CON file

.RCG file is used to configuring the image of each single receiving card, and the .RCG file is already saved on each receiving card normally when you get the whole set of LED screen and control cards from the supplier. So the first time you set up the LED screen, you will get several repeated images whose number is the same as the number of the receiving cards (e.g. If you have 40 receiving cards, then you will have 40 repeated images on the LED screen). The LED screen below is working with correct .RCG file saving (showing repeated images of the top-left part on your desktop).
After you assemble the whole LED screen, you need to send a .CON file, in order to make the whole LED screen show image in one piece. You will get the perfect image below after sending a .CON file to the above LED screen.

Figure 17

1.1.1.3. How to load a .RCG file

**Note:** Please do not send any random .RCG file to the cards if you are not familiar with Linsn’s control system.

**Procedure:**

a. Connect all the components well (PC->sending card->receiving card->LED screen)

b. Click **Screen Configuration** to enter **Sender** tab, set the **Resolution** to the same as your PC’s monitor and click **Save to Sender**. Go to the resolution settings interface on your PC and select the **duplicate/clone mode**.

![Screen Configuration Interface](image)

Figure 18

Official website: www.linsn.com
c. Go to the **Receiver** page. Load the .RCG file from **Load from file** and click **Send to Receiver** to see if one cabinet is working or not. If working, click **Save to Receiver** (this button will be enabled after clicking **Send to receiver**).

![Hardware Setup Image]

**Figure 19**

- If the settings you adjusted are working, click **Save to file** to save the settings to an .RCG file, so that you can load the settings directly when you need it.

### 1.1.1.4. Generating a .CON file

**Note:** Please stand in front of the LED screen when you are checking the connecting direction of receiving cards. After sending the corresponding .RCG file to the receivers, correct and repeated images will be shown on each cabinet as in the following picture.
For connecting all the repeated images above together, you need to do:

a. Input 6 in **Horizontal card**, and 4 in **Vertical card**

b. Select U if the **network port** near the LED light on the sending card is connected

c. Input 128 (pixels) in width and height separately (the above cabinet is 128*128 pixels)

d. Click on the square that corresponds to the first receiving card, and click the second square stands for the second receiving card till all the squares are covered if you select **single-point link**
You can also select **Quick link** to finish the setup (see page10-11 for detailed skills to set quick link).

**Figure 22**

**Figure 23**
e. After filling out all the squares, click **Send to receiver**. Don’t forget to click **Save to Receiver** if the image is working well on the LED screen.

f. You can save the above settings as a .CON file, and load it when you need it.
1.1.2. Brightness

- Brightness: adjust the brightness manually
- Contrast: adjust the contrast manually
- Color Temperature
  - Customize: check to enable RGB brightness component
  - RGB brightness component: Adjust brightness of red, green and blue manually
  - Add: Customize the color temperature that you need, ranging from 1000K to 40000K
- Enable auto-adjust brightness: Enable adjusting brightness automatically by multifunction card

Figure 25
1.1.3. Calibration

This is a remote calibration server which works with the LED Correction software. It is designed for the LED screen which is installed high or with large resolution but needs calibration in a far distance.

![Remote Calibration Interface]

Figure 26

- **Network Setting:**
  - Local: IP address of the server which is connecting to the LED screen
  - Port: Communication port (Keep it default)
- **Communication Information:** Showing connection status of the server and client.
Run **LED Correction** software on client computer -> Click **Tool** -> select **Net Correction**

### Figure 27

![Image of the software interface with the NetCorrection tab highlighted.]

- **IP**: IP address of server which is connecting to the LED screen
- **Port**: Communication port (Keep the default value)

When the it is connected successfully, the connection status will be shown in LedSet as the picture below.

### Figure 28

- **IP**: 10.20.28.25
- **Port**: 5000

When the connection is successful, the connection status will be shown in LedSet as the picture below.
After the above connection, you can do the calibration for the LED screen which is installed far away on the client PC.
1.1.4. Lock LED screen properties

Figure 30

a. Go to **Option->Lock LED screen properties->Hint**
b. Click **YES** to freeze the image on the LED screen and the button will turn into **unlock the LED screen properties**. You can click **unlock the LED screen properties** to resume the action on the LED screen.
1.1.5. Turn off the LED screen

This function requires multifunction board (like EX902, EX906 and etc.). After connecting the power supply for the LED screen to the relays on the multifunction board, you can turn off the power of the LED screen by LedSet:

a. Go to **Option**->**Turn off the LED screen**->**Hint**

b. Click **YES**

c. The button will turn into **Turn on the LED screen**

**Note:** If you don’t have multifunction board connected, it will cut off the video signal (indicated by green light on the sending card) rather than power by using this function.
1.1.6. Change password

- **Add User**: add a new user name and password
- **Delete User**: delete the selected user
- **Edit User**: edit the name and password for the selected user
- **Ok**: click ok to finish the setup
- **Cancel**: click cancel to exit
- **Use Password when StartUp**: it requires enter password when the software starts up

**Figure 32**
1.1.7. Logout

To prevent others from changing the settings by accident, you can click logout to disable the Screen Configuration feature.

Figure 33
1.2. Test Menu

- **Grey test1**
  It will show the selected color’s grayscale from level 1 to 255 automatically.

- **Grey test2**
  You can select to show a specific grayscale.

---

Official website: www.linsn.com
• Grid test
For testing the pixels’ movement on the LED screen.
- **Dot test**
  A quick way to check if there is faulty pixel on the LED screen.

- **Color bar test**
  For testing different grayscale of different color (internal use)
- **Color bar test2**
  Grayscale test pattern for Red/Green/Blue/White

- **Aging**
  For customizing an aging pattern
• **Check position**  
  For checking the showing area and the area for each data sets

```
Figure 42

Coordinates (1314,699)
```

• **Check color**  
  For reading RGB color codes

```
Figure 43

Official website: www.linsn.com
```
Orientation

This function is for locating the faulty module/cabinet/card.

- **Window**
  - X: start x of play window, and keep it to 0 commonly
  - Y: start y of play window, and keep it to 0 commonly
  - Width: pixels’ width of play window, and keep it the same as your LED screen
  - Height: pixels’ height of play window, and keep it the same as your LED screen

- **Module**
  - Width: pixel’s number of one module in width
  - Height: pixel’s number of one module in height

Official website: www.linsn.com
- **Loading Module of Receiving Card**
  The number of modules that connected to one receiving card in height and width

![Loading Module of Receiving Card](image)

- **Color and Size**

![Color and Size](image)

- **Orientation**: Click it to update the contents
  
  a. Set the pixels’ width and height for module and LED screen, and the number of the modules that connected to one receiving card.
  b. Click **Orientation** to update your settings.
  c. The display window will show the grids on the LED screen for you to recognize each

![Figure 49](image)
1.3. Settings Menu

- Hide test window: to hide/show the above window

1.3.1. Tool
For opening Paint, Notepad and Calculator.

- Tool: Paint/Notepad/Calculator
- Software Setup: Other settings for software
- Hardware Setup(Upgrade): For upgrading the firmware
- Language: Other languages
- Schedule Table: For timing settings
Open Paint/Notepad/Calculator (Window’s program) in LedSet
1.3.2. Software Setup

- Mode Settings:
  - Classic mode
  - New mode (recommended)
- Image Settings:
  - Lock screen: this option is unchecked by default, and you can check it to freeze the image of LED screen (same as Option->Lock LED screen properties, please check page 21 for detailed instructions)
  - Screen power: this option is checked by default, and you can uncheck it to turn off the power (same as Option->Turn off LED screen power, please check page 22 for detailed instructions)
- Startup Settings:
  - Start When Windows Starts Up: auto-start LedSet when your PC starts up
  - Auto Minimize: auto-minimize the software when launching LedSet
  - Auto Login: this option is checked by default, and you can uncheck it to keep logging out the software (same as Option->Logout, please check page 24 for detailed instructions)
  - Pop-up tips when the control cards cannot be found: check to show the prompt when the USB connection cannot be recognized.

Official website: www.linsn.com
• Allow multiple programs start: allow open several LedSet
• Timing Settings:
  ▪ Restart every day: set to restart the software at certain time for every day
  ▪ Auto restart software: restart the software every certain period of time
• Network Settings: Reserved
• Monitoring Settings
• Zoom Settings: Enable zoom-> When the resolution-height is less than a certain value
• Other Settings:
  ▪ Auto restart software when fault occurs
  ▪ Show prompt message when quit
  ▪ No error message: to disable the ‘LED screen system not found’ prompt
  ▪ Not allow closing software
  ▪ Power off when close
  ▪ Auto Update new software: reserved

### 1.3.3. Hardware Setup (Upgrade)

- Go to **Settings->Hardware Setup->** Input password-> Click **Load** to select a correct firmware->**Upgrade**
- Power off and on the cards to check if the upgrade works or not
1.3.4. Language

![Image of LED Set 2.6]

**Figure 55**

1.3.5. Schedule Table

![Image of Schedule Table]

**Figure 56**

- Edit: to edit the existing command
- Add: to add a new command

Official website: www.linsn.com
### Figure 57
- **Command**: select a command that you need
- **Execution time**: set a specific time
- **LED No.**: select the LED screen you need
- **Valid Date/Valid Week**: set a period of days to run the commands
  - Delete: delete the selected command
  - Delete All: delete all the commands
  - Exit

### Figure 58
- **Command**:
  - Wake up Computer
  - Turn on LED screen power
  - Turn off LED screen power
  - Lock LED screen property
  - Unlock LED screen property
  - Shutdown computer
  - Adjust all LED Screen Brightness
  - Adjust LED Screen Brightness
  - Adjust LED Screen Contrast
  - Adjust LED Screen Color
  - Restart computer
  - Set the computer to sleep
  - Wake up Computer
  - Control the relay on multi-function card

- **Execution time**: set a specific time
- **LED No.**: select the LED screen you need
- **Valid Date/Valid Week**: set a period of days to run the commands
1.3.6. Demonstration mode (reserved)

1.3.7. ClearBlackLine (reserved)

1.4. Help Menu

- Help: reserved
- Local IP: obtain IP address of the computer
- Software Update: reserved
- Add Features: reserved
- About LedSet: version and copyright

Figure 59
1.5. Screen Configuration
Shortcut for Screen Configuration, see page 5-16 for more details

1.6. Brightness
Shortcut for Brightness, see page 17 for more details

1.7. Calibration
Shortcut for Calibration, see page 18 for more details

1.8. Cabinet Monitoring

Official website: www.linsn.com
Cabinet monitoring is for showing the monitoring data of each cabinet rather than the whole LED screen.
The version will be shown after sending corresponding .CON file.
The other monitoring function (Temperature, humidity, smoke, fan speed, voltage, flat cable status and cabinet door close-open) works with receiving card which integrated with monitoring connectors.

**Note:** Humidity, smoke, fan speed requires extra monitoring module;
Flat cable detection requires custom hub board.

---

**Figure 60**

- **Receiving card type:** the model of receiving card beginning with RV is called **Normal card**
- **Unit:** select the unit for temperature
- **List monitoring:** uncheck to show the info cabinet by cabinet
- **Monitoring Info:** select to just show one type of monitoring info
• **Alarm setup**: because of the server problem, this can only function in China

### 1.9. Multifunction Card

This function works with multifunction card for showing monitoring data of the whole LED screen. In the page below, you can set the sensitivity of light sensor and monitoring speed of multi-function card, etc.

![Multifunction Card](image)

*Figure 61*
Note: After you finish installing and setting up the multifunction card and light sensor, enter this page. If the current brightness, temperature and humidity value changes automatically, it means the sensors are working.

1.10. Hardware Information

The hardware information shows correctly only when the USB cable is recognized well by the controlling computer.

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Model</th>
<th>Com Port:</th>
<th>Sender number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>Hardware</td>
<td>COM3</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>Unknown</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Figure 62
If the USB communicates with the PC well, the hardware info will show as follows

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Model</th>
<th>Com Port:</th>
<th>Sender number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>84.DB</td>
<td>COM3</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>TS802D</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Figure 63
And the USB status in Device Manager on your computer is working as follows

- Ports (COM & LPT)
  - Silicon Labs CP210x USB to UART Bridge (COM3)

END