


LedCenterM Software Operation Manual

(C-POWER)

 This manual is intended for LED program edit & management personnel like LED system integrator, manufacturer and end user.

Typesetting notes

Special typesetting symbols are described below :

Symbols	Description
1 Preface 2.1 System configuration ...	Chapter number and chapter title
Figure 1 Software language switching	Figure number and description
Table 1 Button list of console tool bar	Table number and description
Common font	Text
Bold font	System terms, for example “ LedCenter ”
<u>Wave underline</u>	Important points, special attentions required
1)2)3)...	Operation steps. Installation and setting shall be made in accordance to the steps.
1.2.3... a.b.c.... A.B.C....	Important list
● <u>Underline</u>	Less important list

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1 Preface

1.1 Software application background

Thank you for using **LED Center** software. **LED Center** is a professional LED control system supporting software.

LedCenterM (asynchronous display version) is intended for the control system of LED asynchronous display and its main functions are:

- Supports editing and generating programs of C-Power series LED screen control systems.
- Program related operations: program definition, setting of program window layout, programs editing, program preview and adjustment, program sending and etc.
- Setting function: automatic tasks, time setting and communication ports setting and etc.

1.2 File description

Take LedCenterM (asynchronous display version) **V5.0.6**¹ as an example, this manual describes how to control and manage the control system of C-Power gray-scale led screen with LedCenterM software.

Each part of the manual is stated as below:

- Chapter 1 Preface
- Chapter 2 Introduction to C-Power control system
- Chapter 3 Brief introduction and basic settings: LedCenterM software characteristics, installation, uninstall and basic settings and etc.
- Chapter 4 Program edit management: concepts and operation methods, by which the programs of C-Power series led screen control systems are edited, sent and played; play schedule management; screen's real time, brightness management and etc.
- Chapter 5 Other functions: the software option, program bill management and etc.
- Chapter 6 Appendices: usage of buttons in tool bar, trouble shooting and etc.

¹ Note: Functions may differ due to version. Click "Help" –"About" on the menu, you can find the information of the software's version.

2 Introduction to C-Power control system

2.1 System configuration

C-Power series control system consists of:

- A. Main control board: directly control the program display and management of LED display screen.
- B. **LedCenterM** software: supporting software of LED control system. **LedCenter** connects with the main control panel through computer's network or COM port usually.
- C. Other supporting accessories: directly connected to the main control panel and performs special functions, for example: optical probe, temperature probe, humidity probe and etc.

2.2 System communication

C-Power system communication connection ports include RS232/RS485 serial port, TCP/IP network port, or USB flash disk port and etc.

- Serial port mode

RS232: With RS232 mode, the computer COM port connects to main control panel directly. LedCenterM simultaneously manages and controls only one LED display through one computer serial port.

RS485: With RS485 mode, the computer COM port connects to main control panel through the RS232 ↔ RS485 converter. But the main control panel can be cascaded with 485 BUS, and LedCenterM can simultaneously manage and control 255 LED displays through one computer serial port.

- TCP/IP network mode¹

The computer can remotely manage the display screen through LAN (Local Area Network) or Internet, via wire or wireless mode (such as WIFI).

- USB flash disk mode²

The computer send the program data to the USB flash disk, and when the disk plugs into the controller's USB interface, the program data will be imported into the controller automatically.

Other communication modes:

- GPRS/CDMA mode

Wireless GPRS/CDMA mode: The computer can remotely manage the display screen through mobile phone network by connecting GPRS or CDMA communication DTU.

- Other wireless mode

The computer can remotely manage the display screen through public wireless band by connecting wireless module (for example: RF module or ZigBee Module).

¹ "TCP/IP network mode": only for network version controller.

² "USB flash disk mode": only for USB version controller.

3 Brief introduction and basic settings

3.1 Software characteristics

Main features of LedCenterM V5.0.6¹:

- Supports C-Power series control systems.
C-Power 5200 supports RGB full color, 256 gray degree scales.
C-Power 4200 supports RGB color, large size, no-gray scale.
C-Power 3200, C-Power2200, C-Power1200 supports RG dual colors, no-gray scale.
- Supports multi-communication modes such as network, serial port, USB flash disk and etc.
- With clear and simple interfaces, non-professionals can easily make, play and control programs.
- Software menu is easy and reasonable, which avoids error operations.
- With hierarchical management of programs in menu type so as to keep clear structure and convenient maintenance.
- With multi-program mode. Any multiple programs can be stored on control panel.
- Up to 10 windows could simultaneously play different action modes; each window can set flashing surround to highlight the window.
- C-Power control systems supports various program types such as video, animation, picture, Word/Excel, clock, text and etc.
- Supports text program which is edited in any language, any font and any size. Powerful typesetting function.
- Text program can set to be transparent or hollow-out, and overlay to picture, animation or video programs.
- Supports temperature display (temperature sensor shall be installed externally).
- Supports RTC management and settings of real-time clock, to display analogue or digital world clock. Time counter (count up/ count down) .
- In networking mode, up to 256 LED screens can be networked and managed.
- Programs are allowed to be played according to the playing schedule.
- Supports optical setting of multiple adjustment modes such as manual, timing or automatic adjustment (brightness sensor shall be installed externally).

3.2 Software running environment

3.2.1 Computer environment

- OS: Windows2000, Windows XP, Windows Vista, Windows 7.

3.2.2 External running environment

LedCenter is the supporting software of LED display control system. Therefore, it shall establish

¹ Note: functions may differ due to different types of control panel; also, functions may differ due to software version.

communication with the hardware part of the LED control system. The communication connection modes are serial port, network port and etc., and the USB version controller also can transfer the program data by USB flash disk.

3.3 Software installation and uninstall

3.3.1 LedCenter

Run “LedCenterM_V500.exe” which store on the install CD, and according to the prompt.

During uninstall, run “Start” - “All programs” - “LedCenterM5.0” - “uninstall LedCenterM”.

3.3.2 Video decoder

To support video program, the computer should install video decoder first. Run the install files of decoder on install CD.

3.4 Software running and setting

3.4.1 Software running

Run “Start” - “All programs” - “LedCenterM V5.0” - “LedCenterM”; or double-click “LedCenterM” shortcut icon on the desktop directly.

Click “Setting” – “Language” in menu bar to switch language. The interface of **LedCenter** supports English, simplified Chinese, traditional Chinese and so on¹.

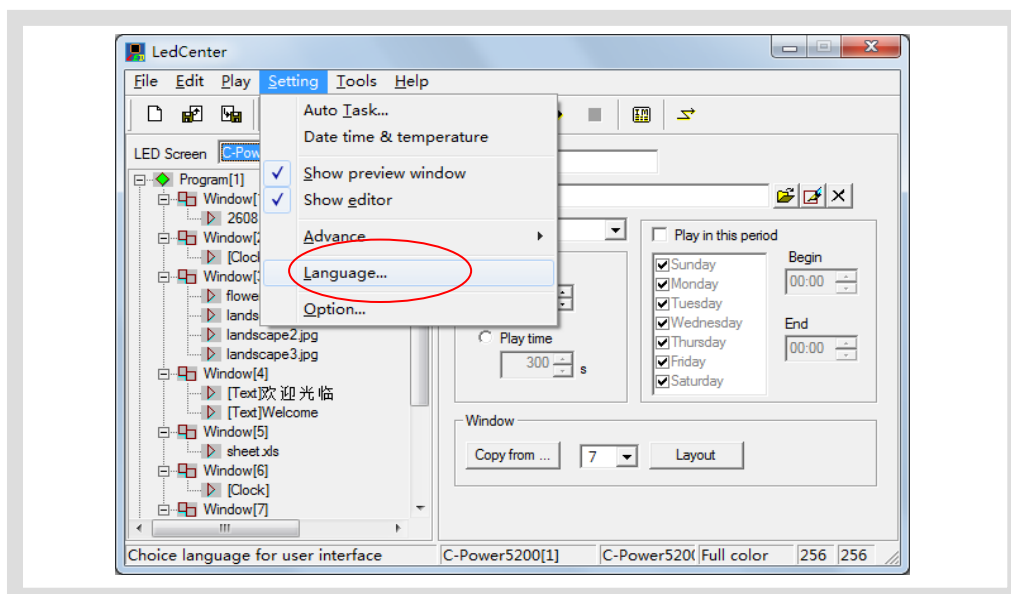


Figure1 Software language switching

3.4.2 Define LED screen (searching controllers; set screen parameters)

The software setting is to perform “Define LED screen”.

Purpose: when the software is run for the first time, the LED screen definition is the first step, which aims to establish the program and set the communication mode. After it, the LedCenterM

¹ The LedCenterM provide supporting language SDK tools, customer can develop and add new language interfaces.

software is combined with the LED screen hardware through the program.

Methods and steps:

- 1) Click “Setting” – “Advance” – “Define LED screen”, as shown in Figure2.

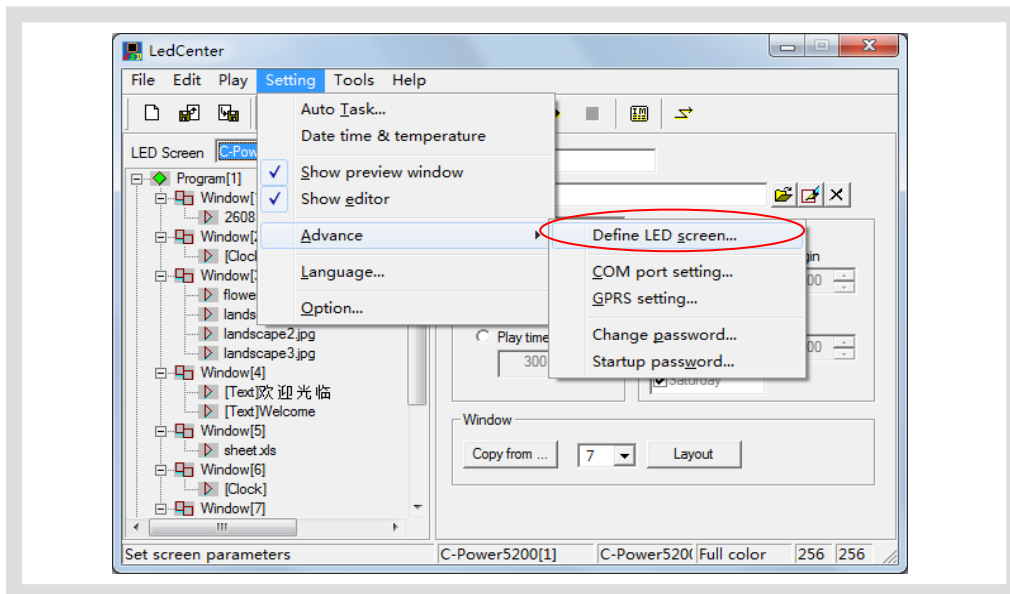


Figure2 Go to “Define LED screen”

- 2) In the LED screen list dialog box (Figure3), click “New” button to establish or click “Edit” to change the screen parameters.

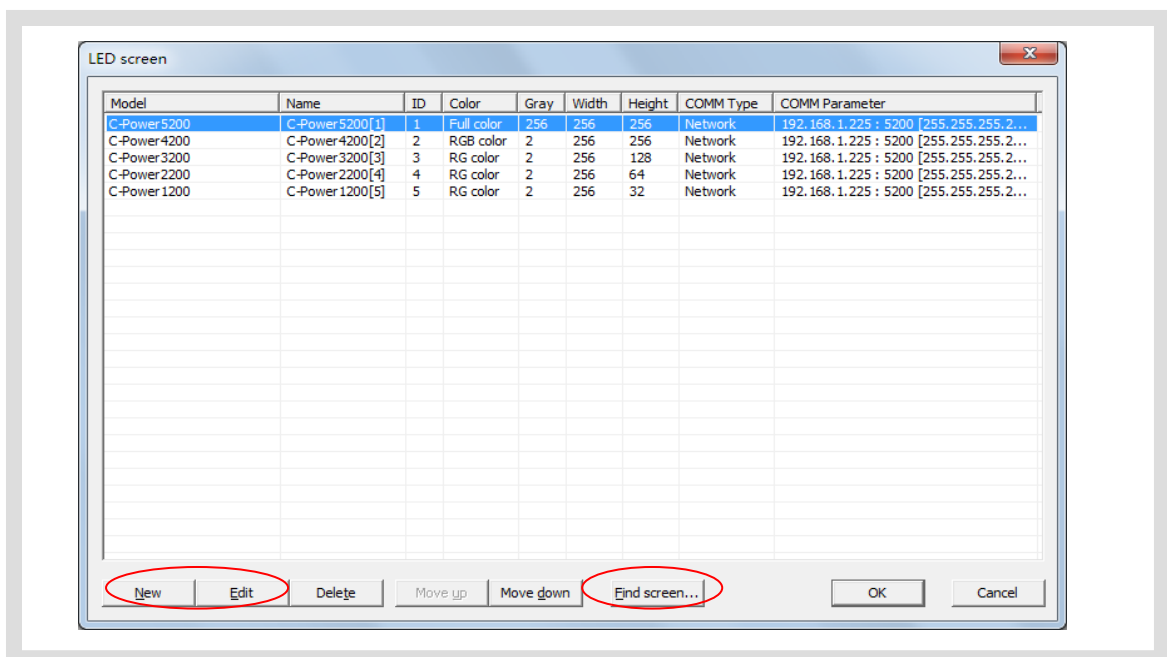


Figure3 LED screen list

- 3) If the controller has connected into the computer(COM port or network port), click “Find screen” button(or click “Tools”-“Find device” on the menu), the “search device” dialog box pops up, to search the devices which has connected into the computer.

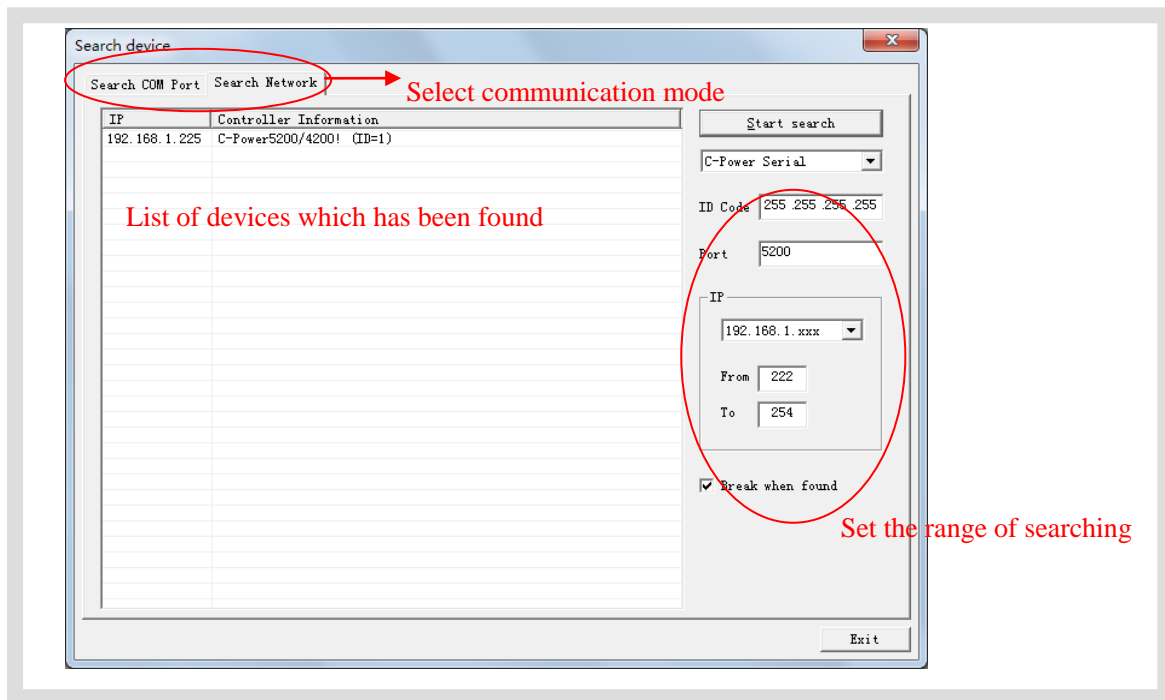



Figure4 Search device

- 4) After click “New” or “Edit” button, enter the password¹ in the authority confirmation box, and the box of “Screen editor” pops up, as shown in Figure5 and Figure6.
- 5) In the dialog box of “Screen editor”, define LED screen according to the hardware setting condition of the screen controller.
 - A. Model: select the correct controller type at the left side of the dialog box.
 - B. Name: user can name the LED screen freely. The name will appear at the edit field. If no name input, the system will automatically display “C-Power 5200 (ID)”
 - C. ID: it is used to distinguish two or more LED screens. If there is only one screen, use the default value “1”.
 - D. Color: select the color of the LED screen: Full color.
 - E. Width and Height: actual pixels of the LED screen.
 - F. Font library: click  button can set the font library type, if the controller has connected well, the font libraries which have installed on the controller can be auto detected.
 - G. Communication type: select COM port mode, network mode, or GPRS/CDMA mode.
 - COM port mode: RS232 or RS485 mode
 It needs to set the original port of PC COM port² communication, and then Baud rate³.

¹ Initial password is “16888”, please change and remember the new password timely.

² For port number of PC COM port, it can also be modified through Menu Bar “Setting” – “Advance” – “COM port setting” after defining LED screen. User needn’t enter “Define LED screen” again.

³ The baud rate of the control card can be changed by LedTool, see engineer’s manual.

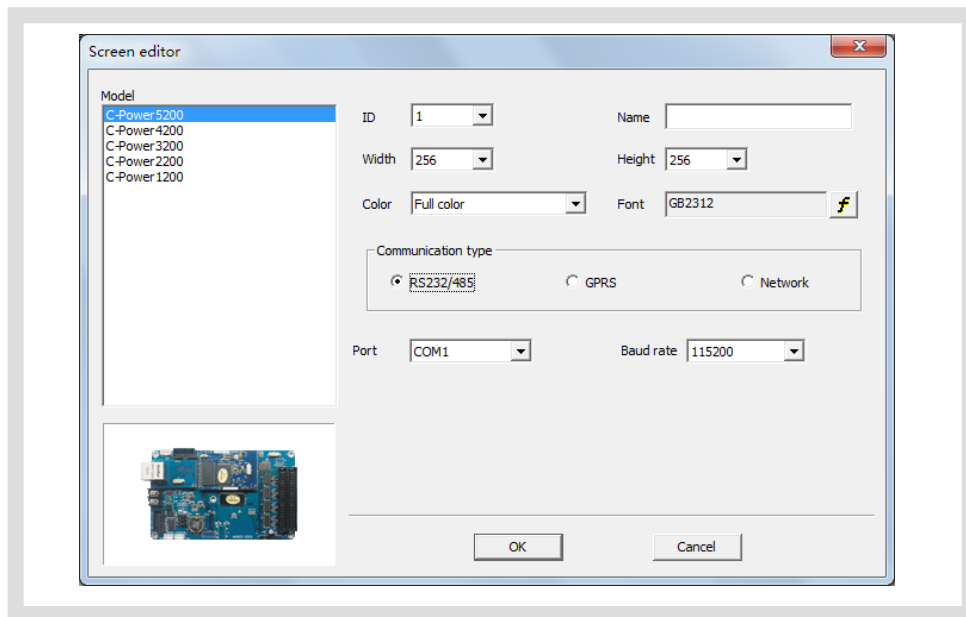


Figure5 “Screen editor” dialog box under COM port mode

- Network mode

There are the following setting items¹ after connecting the network port with the control panel.

a. IP address: the IP address of the control panel

Local area network: if it is local area network or the control panel is connected by net twines, user can directly input IP address of the control panel (set IP address by using LedTool).

Internet: if the control panel is connected by internet, user should input IP address of the internet gateway.

b. ID code: the IP package ID code of the control panel (such as password).

ID code should be the same as the control panel setting, so that it can be recognized and controlled by the control panel.

c. Port: network port

Local area network: input network port of the control panel.

Internet: input network port of the control panel. Besides, allocate this network port to computer and control panel through the gateway setting port which computer and control panel lie in.

¹ The network parameters of the control card “IP address, ID code, Port” can be changed by LedTool, see engineer’s manual.

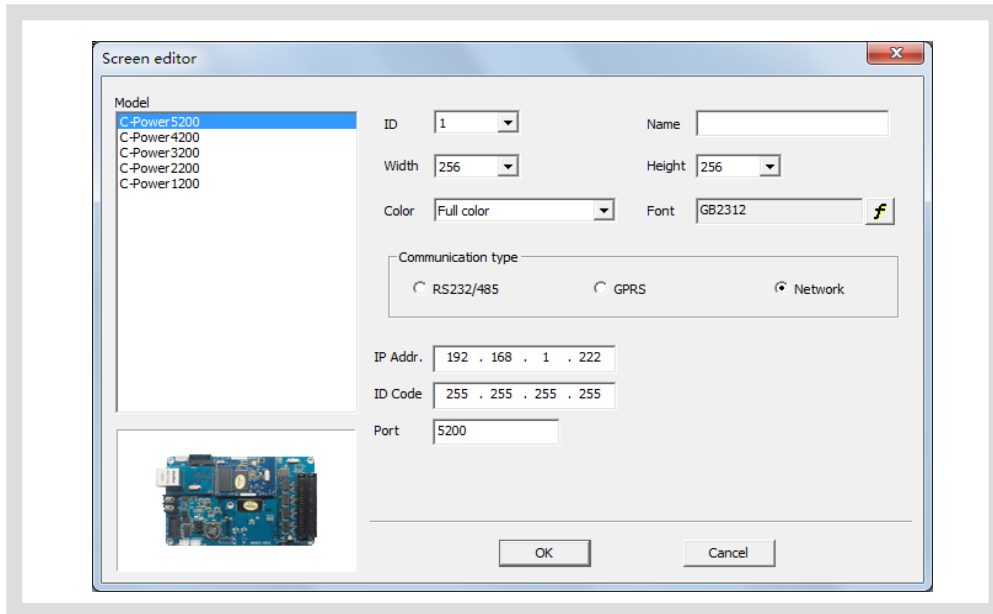


Figure6 “Screen editor” dialog box under network mode

- GPRS mode

Both GPRS and CDMA modes are sending signals through wireless network by connecting GPRS or CDMA DTU. For details, please refer to relevant documents.

- 6) After the LED screen definition is completed, **LedCenter** will set up a playbill for each screen, so the mapping between panel and software is completed, and then we can go ahead to start the programs editing and LED screen management works

☞ After the LED screen definition is completed, engineers shall backup the file “screen.cfg” which is automatically created under the installation directory of **LedCenter**. If software or computer is installed again, overwrite the file under the installation directory of **LedCenter** with the backup, so that the related settings of software will be restored. User needn’t enter “Define LED screen” again.

4 Program edit management

4.1 Software overview

During the normal running of software, the interface is shown as Figure7, which consists of two parts: **console** and **program preview window**

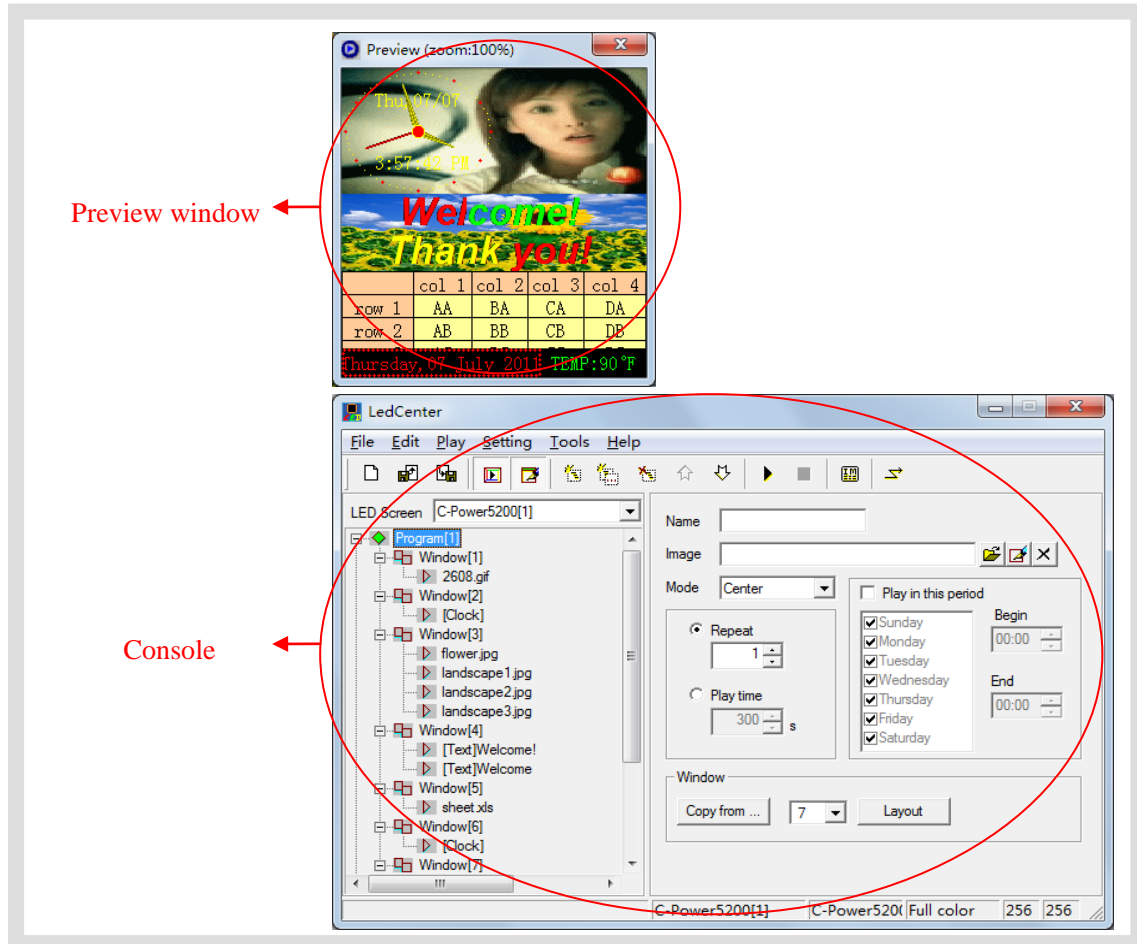


Figure7 Software interface

4.1.1 Preview window

Preview window is an important part of LedCenterM software. It can simulate the same display effect as the actual LED screen and provide “what you see is what you get” program edit interface.

- **Program** overall preview: user can see overall display effect through preview window after **program** editing is completed. Please refer to section 4.3.4.
- **Window**: user can adjust the size and position of each **window** through preview window. Please refer to section 4.3.2.
- **Play item** preview: user can preview the actual play effect through preview window when each **play item** is edited.

In order to simulate LED screen to get better effect, the preview window is independent. For

more settings of preview window, please refer to section 5.1.

4.1.2 Console

Console is an operating platform of program edit, setting and sending. The console is shown as Figure8 and Figure9, which consists of main menu, tool bar and program edit zone.

- Main menu and tool bar: For the button function of tool bar, please refer to section 6.1.

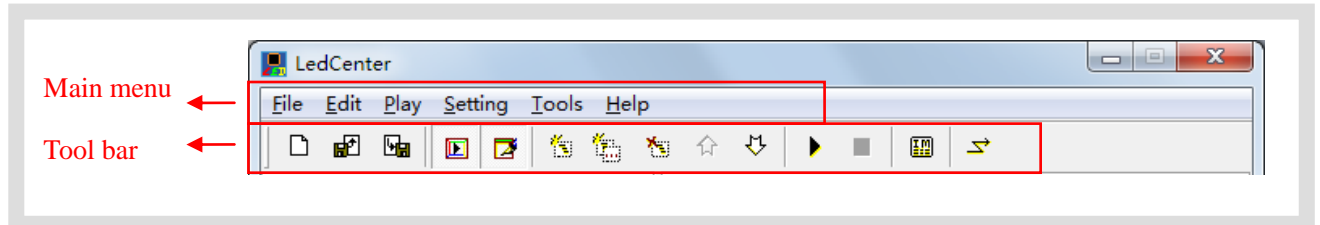


Figure8 Main menu and tool bar

- Program edit zone consists of “Playbill” zone and “Attribute box”. After playbill item is selected, the attribute box shows each attribute of the item which can be set.

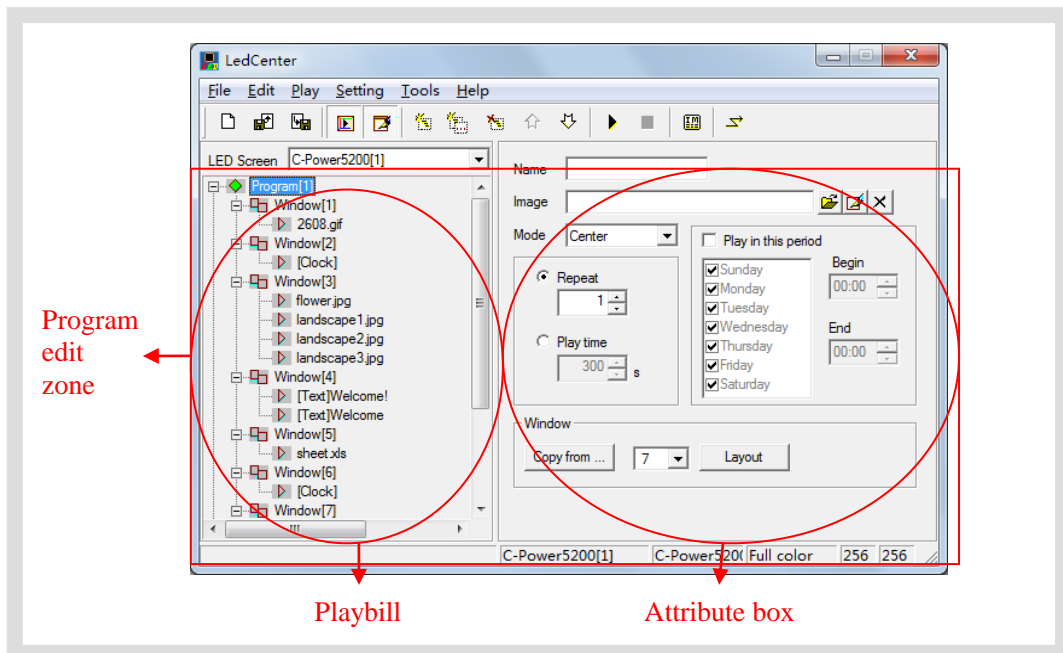


Figure9 Program edit zone

4.2 Playbill

When the LED screen definition in section 3.4.2 is completed, **LedCenter** will create a **playbill** for each led screen. The playbill zone which is located at the left side of the program edit zone in Figure9 is the well-edited playbill of “C-Power5200[1]”.

- Each **playbill** consists of one or more **program(s)**.
- The **playbill** switching of display screens is shown as Figure10.
- **Playbill** of each led screen will be stored automatically. In addition, with “Import” and “Export” functions, the backup and recovery of current **playbill** can be done.

For the advanced operations of **playbill**, please refer to section 5.2.

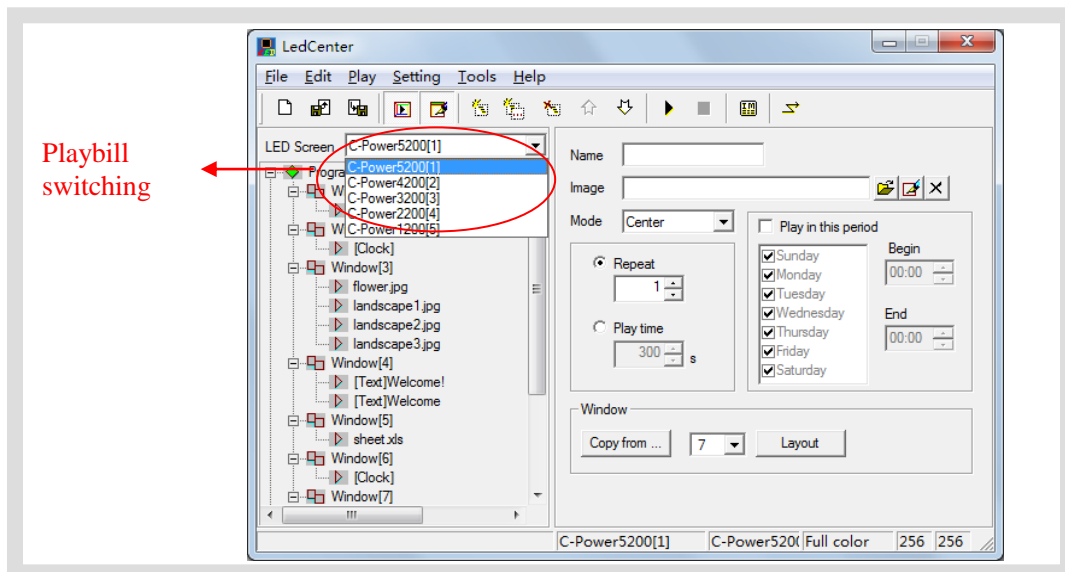


Figure10Playbill switching of display screens

4.3 Program

Program is the display content of LED screen. It consists of **window** layout; various **play items** and so on.

- Each **playbill** consists of one or more **program(s)**. If permitted by program data size, C-Power control system can store 512 **programs** at most. That is, the **playbill** of C-Power control system can consist of 512 **programs** at most. The window layout and content of each **program** in one playbill may be different.

As shown in Figure 11, a complete **program** consists of the following three parts:

1. Program

- C-Power series control card can store 512 different programs at most.
- In playbill, **programs** are played from the top to the bottom.
- User can set the play time to every program according to the schedule.

For details of **program** management, please refer to section 4.3.1.

2. Window

- Each **program** can be divided into 10 **windows**.
- The contents of different **windows** for each program are absolutely independent and played simultaneously.
- The position and size of the window can be freely adjusted, and sometimes overlapped. When more windows are overlapped, the content of the window that the window's **number** is smaller will be covered by the bigger one.

For details of **window**, please refer to section 4.3.2.

3. Play item

- User can set many **play items** within one **window**.
- Many **play items** under each **window** are played from the top to the bottom.

- Types of **play item**: text type, clock type, environmental data type and external document type.

For details of **play item**, please refer to section 4.3.3.

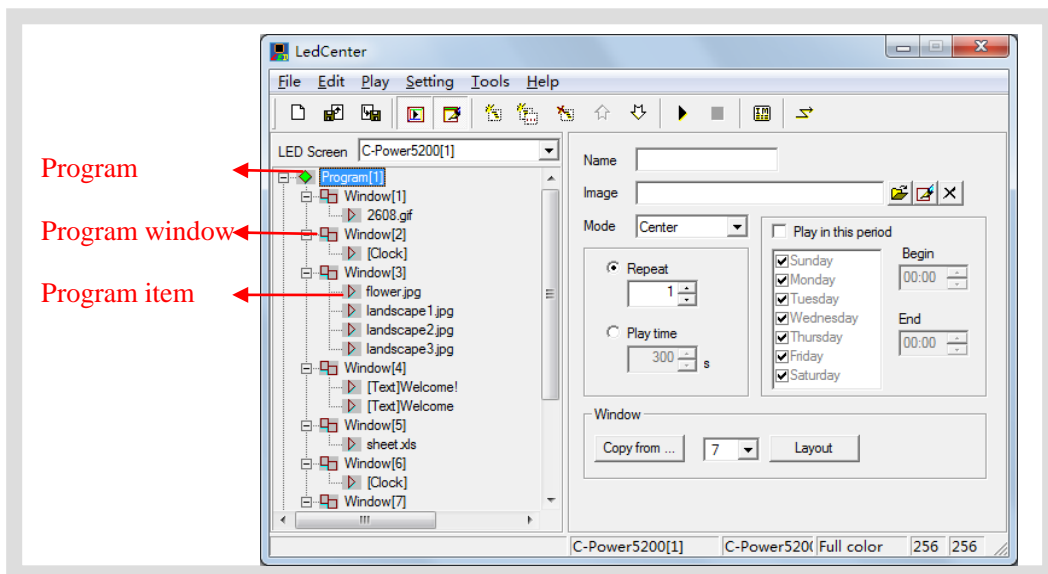


Figure11 Levels of playbill

4.3.1 Management of program

1. Program management

Method 1: select a program from the playbill (at the left side of the console); click “Add”, “Delete”, “Move up”, “Move down” under the “Edit” on the menu.

Method 2: click the relevant tool button in Tool Bar, as section 6.1 shows.

Method 3 (recommended): right click a **program** in playbill (at the left side of the console); select right shortcut in the pull down menu, as shown in Figure12.

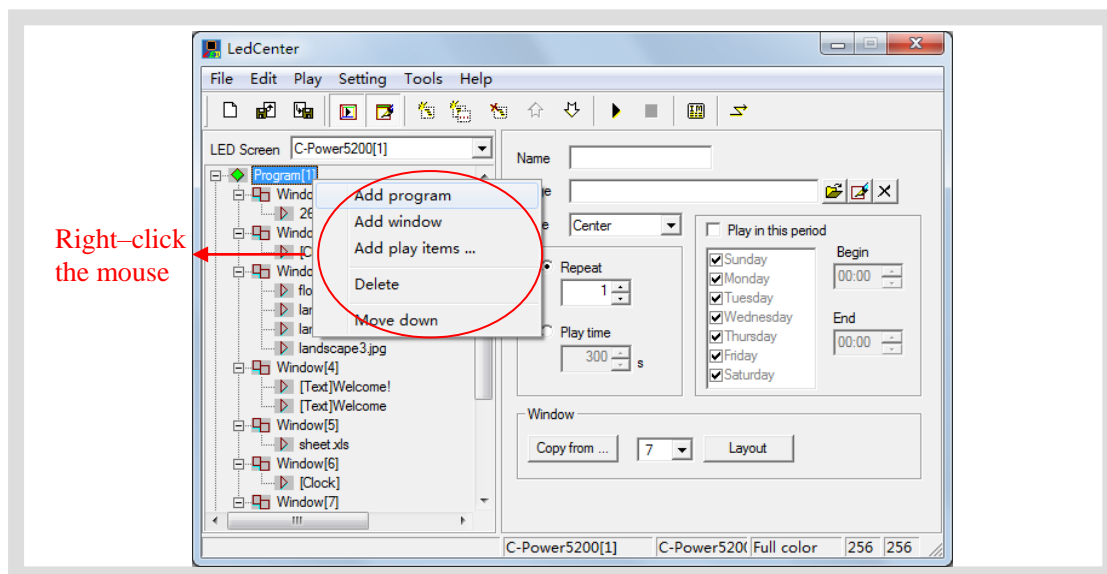


Figure12 Shortcut management of program

2. Program setting


In Figure13, when one **program** is selected in playbill at the left side of the console, the

attribute box at the right side will show its attribute. The following items can be set:

- A. Name: self-define **program** name.
- B. Background and mode: select background picture and its layout of the current **program**, which means displaying the background pictures needed to be displayed where is not covered by all the **program windows**
- C. Program play control: when more than one programs coexist, they are played according to program number from the top to the bottom. User can set the repeat times or play time of each program. If only one program is played, it will be played repeatedly without restriction of this attribute setting.
- D. Play restricted by time period¹: If it is selected, the current program will be played in restricted time period only. Otherwise, the current program is played normally in all time periods.

Skills of setting time selection

- Start time equals to end time: for example, the start time is “00:00” and the end time “00:00”, the program is played all the day.
- Start time is less than the end time: for example, the start time is “8:00” and end time “20:00”, the program is played during “8:00~20:00”
- Start time is greater than end time: for example, the start time is “20:00” and the end time “8:00”, the program is played during “20:00 ~ 23:59” and “0:00 ~8:00”.


 Note: if all programs are set to “play restricted by time period” and no content is appointed in some period, the screen appears to be a black one with nothing.


E. Initial setting of window

Copy: click “Copy” button to pop up a “Copy program’s window”. User can select and copy the currently existed program, as shown in Figure14.

Number of window(s): select the number of **window(s)** for the current program.

Layout: click “Layout” button to select the division type of window for the current **program**.

 Note: It is to simply set the **window** for the current **program**. Generally speaking, it is to set the **window** for the new **program**. If it is used to set the well-edited program, it may lead to its data loss, please be aware!

 For details of management and setting of **window**, please refer to section 4.3.2.

¹ The function of “Playing schedule” is more powerful. Click “Edit”-“Playing schedule” on the menu.

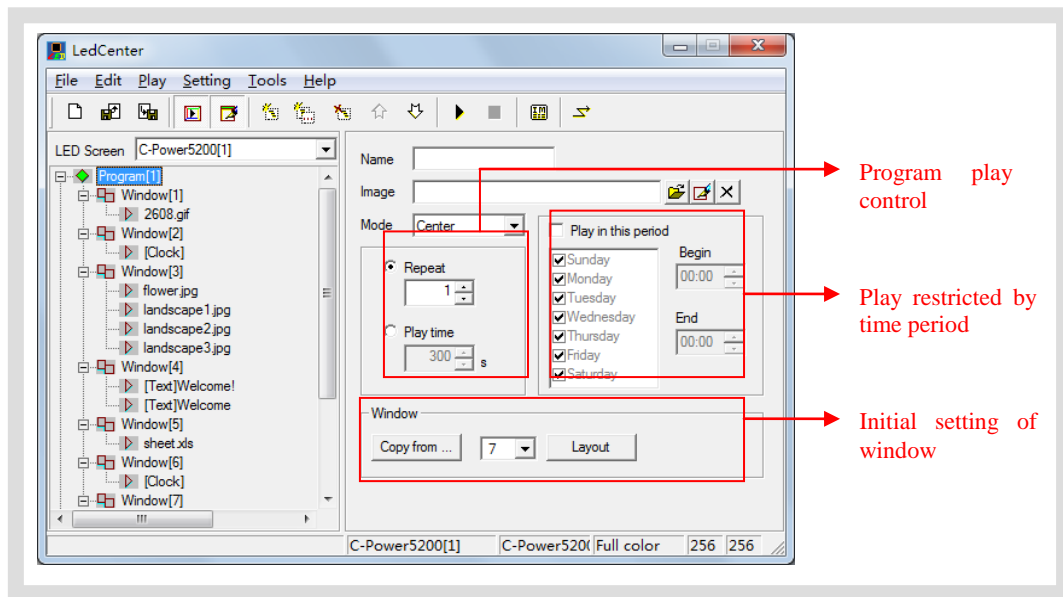


Figure13 Program attribute

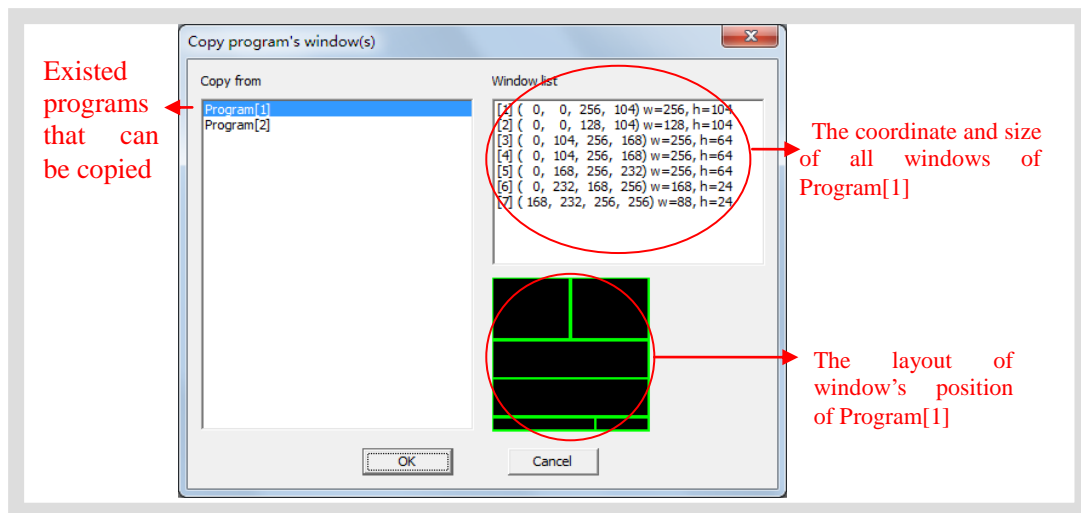


Figure14 Copy program's window layout

4.3.2 Manage and set **window** (visual interface of division, flashing surround)

In each **program**, program display screen can be divided into up to 10 independent **windows**. **Windows** can differ from each other in size and position.

1. Management of window

Method 1: in **program** setting, user can set the number and layout of the **window**, or directly copy the existed program. Please refer to section 4.3.1 and Figure14.

Method 2: select a **window** item from the **playbill** (at the left side of the console); click "Add", "Delete", "Move up", "Move down" under "Edit" in Menu Bar.

Method 3: click the relevant tool button in Tool Bar, as section 6.1 shows.

Method 4 (recommended): right click a **program** or a **window** in playbill (at the left side of the console); select right shortcut in the pull down menu, as shown in Figure15.

☞ Within one program, the position of each **window** can be overlapped, and the content of the window that window's number is smaller will be covered by the bigger one.

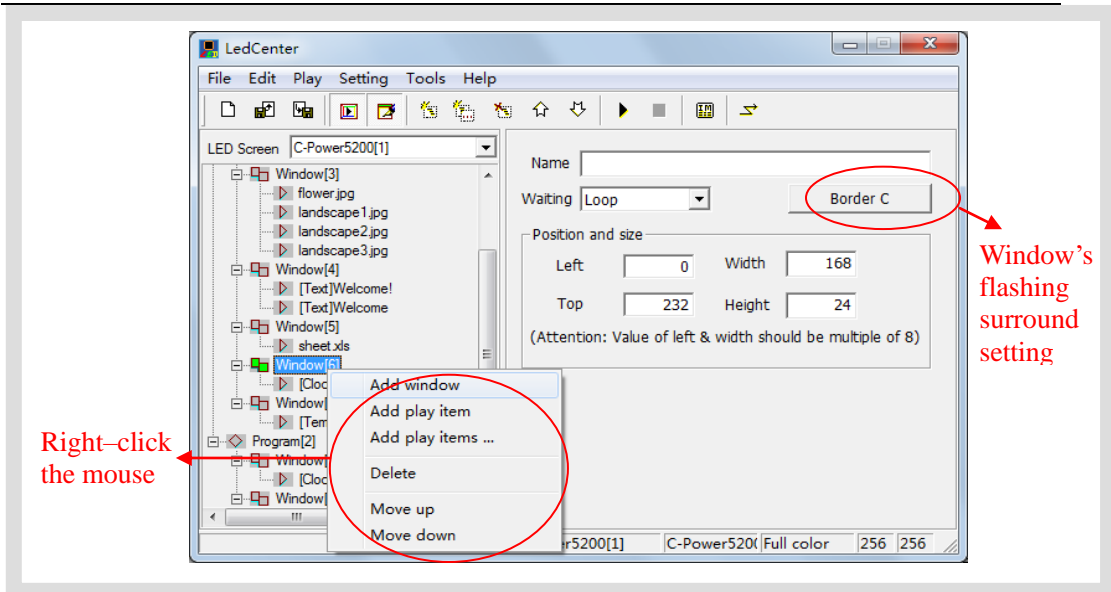


Figure15 Window management

2. Setting of window

When the **window** is selected, the attribute box at the left side will show its attribute, see Figure15. The following items can be set:

- A. Name: self-define the name of the **window**.
- B. Flashing surround: click the button of flashing surround setting (see Figure15), the "Border selector" pops up, as Figure16 shown. Add and select the surround's type. Every window can set the flashing surround to highlight the window's content.

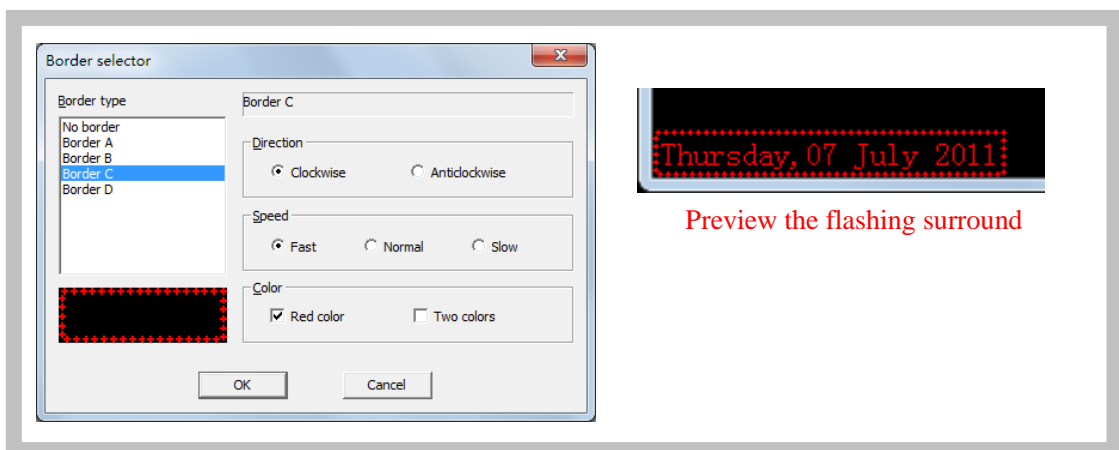


Figure16 Flashing surround setting

- C. Waiting: if all **program items** in the current **window** have completed playing while the **program items** in other **window** haven't completed playing, user can select the waiting modes of current **window**.
- D. Position and size: input the position and size of the **window**.

- ☞ Visual interface of **windows** adjusting: when a “**Program**” or “**Window**” is selected in the playbill, the mapping position of each **windows** in current **program** will appear in the preview window. The frame of current **window** is bright yellow while the others are green, as shown in Figure17. The position and size of each **window** can be adjusted freely by use the mouse to drag the black block on the frame.

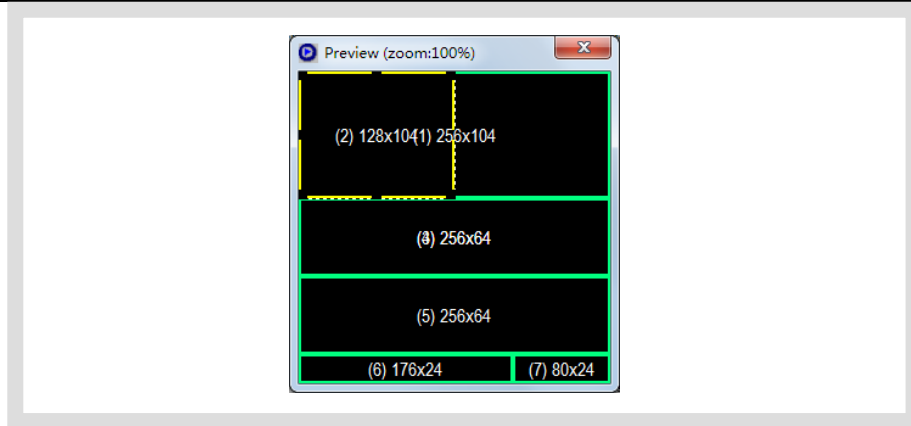


Figure17 Editing of size and position of window in preview window

4.3.3 Management and editing of play item

1. Management of play item

Each **window** can hold any number of **play items**; every **play item** is played in sequence from the top to the bottom. The **play item** is managed in following ways:

Method 1: select one **play item** in the **playbill** at the left side of the console; click “Add”, “Delete”, “Move up” or “Move down” under “Edit” in Menu Bar.

Method 2: click the relevant tool button in Tool Bar, as section 6.1 shows.

Method 3 (recommended): right click a **play item** in **playbill** (at the left side of the console); select right shortcut in the pull down menu, as shown in Figure18.

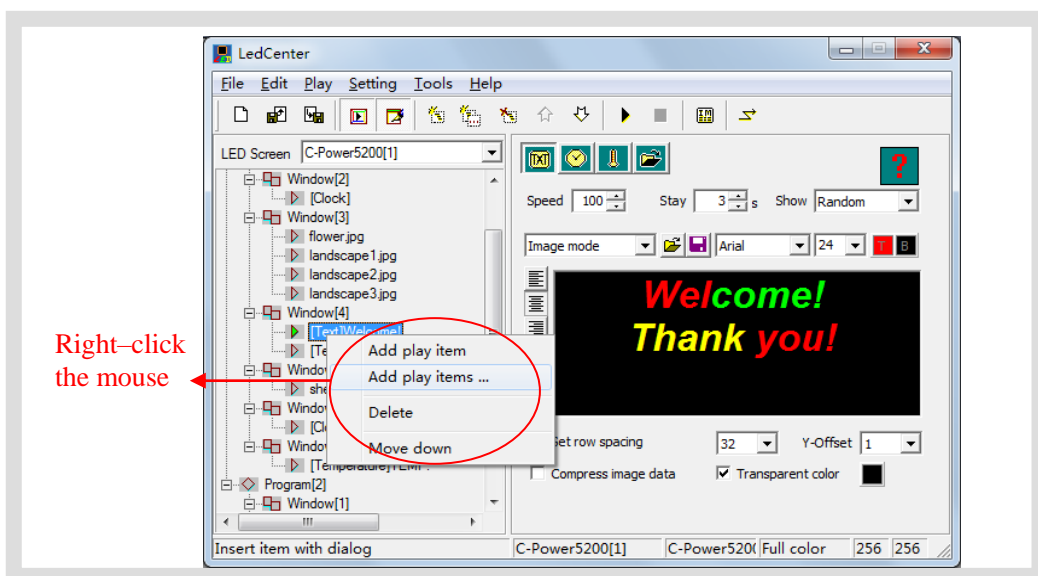


Figure18 Management of play item

Click “Add play **items**”, add more than one documents together, as shown in Figure19.

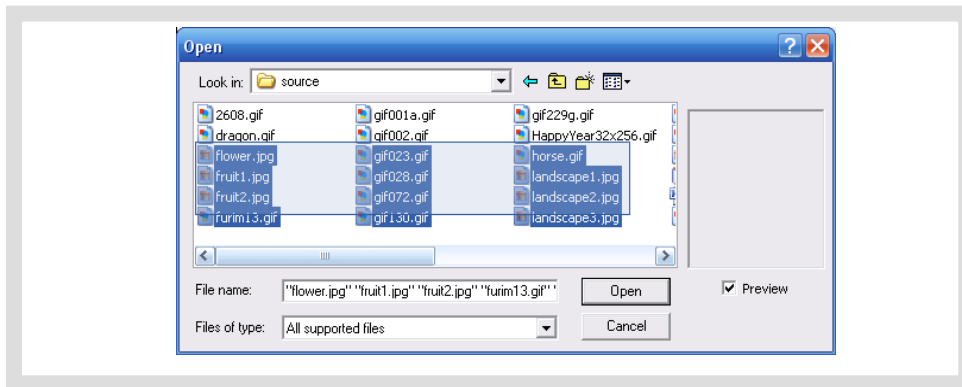






Figure19 Add play items


2. Editing of play item

The content of each **play item** can be selected by clicking “Play item type” button, as shown in Figure20. The types are listed below:

-  **Text type**: Text mode (font library stored in the control card) and Image mode (using the computer’s font library and converted into picture before sending)
-  **Clock type**: simulative clock, digital clock, etc.
-  **Environmental data type**: temperature (Celsius or Fahrenheit) or humidity.
-  **External document type**: video, animation, graphic document, Office document, text document, etc.

The following sections introduce each type of editing the **play item** in details.

4.3.3.1 Text type (More than 60 effects, transparent overlap or hollow-out effect)



At the left side of the playbill, select the **play item** to be edited. If  button is clicked, the type of the play item is text. Please see Figure20 and Figure21.

There are two modes of text type: “**image mode**” and “**text mode**”.




More than 60 effects for text program, such as: snow fall, mosaic, slide zebra, fan open and etc. User can click the preview window to preview and select effects, as Figure22 shown.

1. Image mode

As shown in Figure20, it use the fonts of computer and convert the content in the edit zone to picture format It supports the text program of any languages, fonts and sizes.

- **Text input**: Input the text content in the input field. Or paste the text content with office file’s format information from clipboard. Or click  and  buttons above the input field to open TXT or RTF files, or save the text in input field to files.
- **Text setting**: Every character can be set or modified one by one. The fonts, size, text color, background color, bold (**B**), italic (**I**) and underline (**U**) and etc.
- **Effect select**: Moving “speed” and “stay” time can be chosen. Click the effect

pull-down menu to select or click the preview icon to virtual preview and select the text effect, as Figure22 shown. When select the “random” (the preview icon is “?”), the controller will play the text program in random effects.

- **Typesetting:** Click the typesetting buttons on the left side of the text input field, to set the text align left , center , or right .
- **Set row spacing:** To set row spacing, and Y-offset, it can adjust the text height and position exactly even by every screen pixel.
- **Compress image data:** When this option is selected, the text program data of **Image mode** will be compressed, highly reduce the time for transmission and save the memory space on the controller.
- **Transparent or hollow-out:** Text program can set to be transparent or hollow-out, and overlay to picture, animation or video programs, as Figure23 and Figure24 shown.

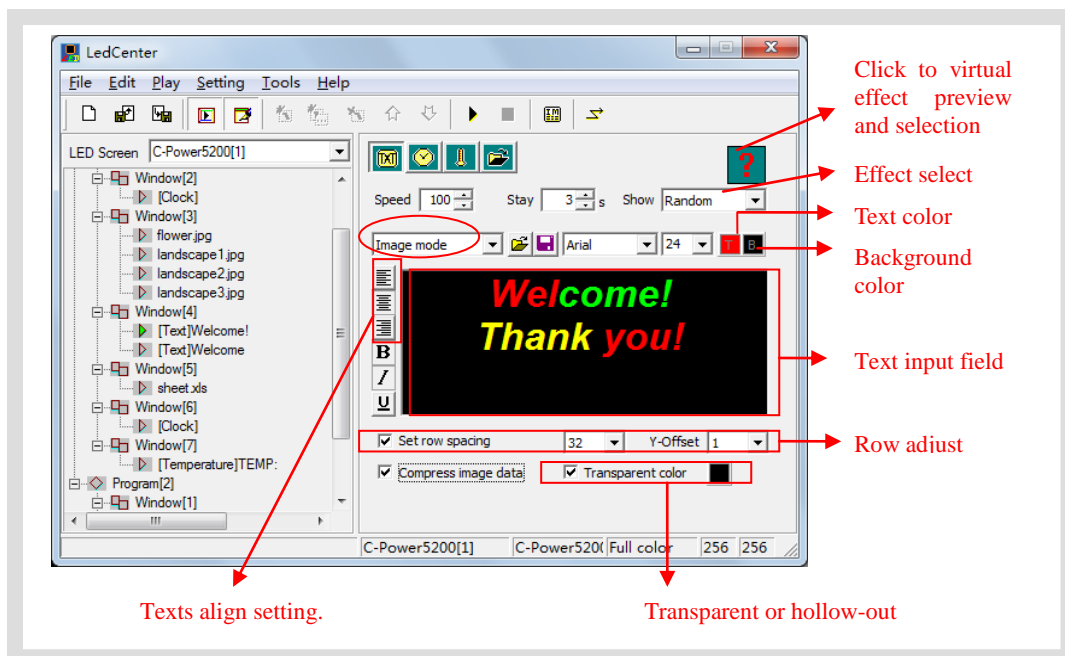





Figure20 Text program (image mode) edit interface

2. Text mode

As shown in Figure21, display the text with the attached font library of the main control card.

- **Text input:** Input the text content in the input field. Click  and  buttons above the text input field to open TXT or RTF files or save the text in input field to files
- **Text setting:** Every character can be set or modified one by one. The size, text color, and reverse color (.
- **Effect select:** Moving “speed” and “stay” time can be chosen. Click the effect pull-down menu to select or click the preview icon to virtual preview and select the text effect, as Figure22 shown. When select the “random” (the preview icon is “?”), the controller will play the text program in random effects.

- **Typesetting:** Click the typesetting buttons on the left side of the text input field, to set the text align left, center, or right; and align up, Y-center, or down. Select the line选择“行间距”，可调整两行文本之间的间隔。
- **Set row spacing:** Select “line spacing”, to set the distance between two lines
- **Transparent or hollow-out:** Text program can set to be transparent or hollow-out, and overlay to picture, animation or video programs, as Figure23 and Figure24 shown.

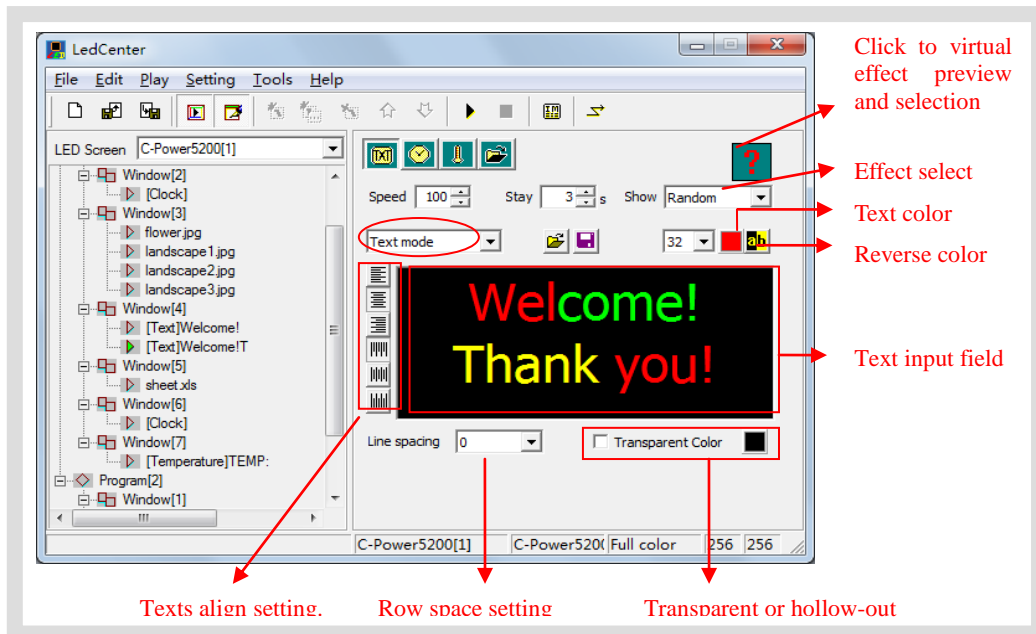


Figure21 Text program (text mode) edit interface

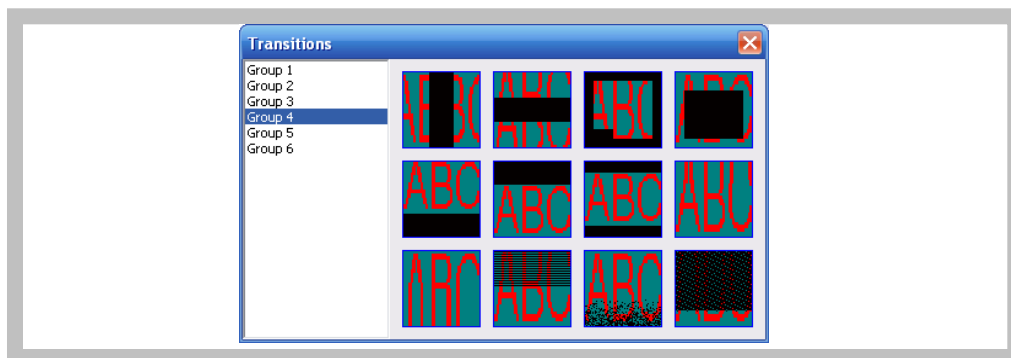


Figure22 Effect preview and select

3. Text transparent or hollow-out

Text program can set to be transparent or hollow-out, and overlay to picture, animation or video program's window, as Figure23 or Figure24 shown. The following setting should be set:

- 1) The window of text overlapped other window.
- 2) The text window's number is bigger.
- 3) Select "Transparent" option.
- 4) Transparent color select:

When the transparent color is the background color, the text is transparent overlap on

the overlapped window's content (as Figure23 shown).

When the transparent color is the text color, the text is hollow-out to show the overlapped window's content (as Figure24 shown).

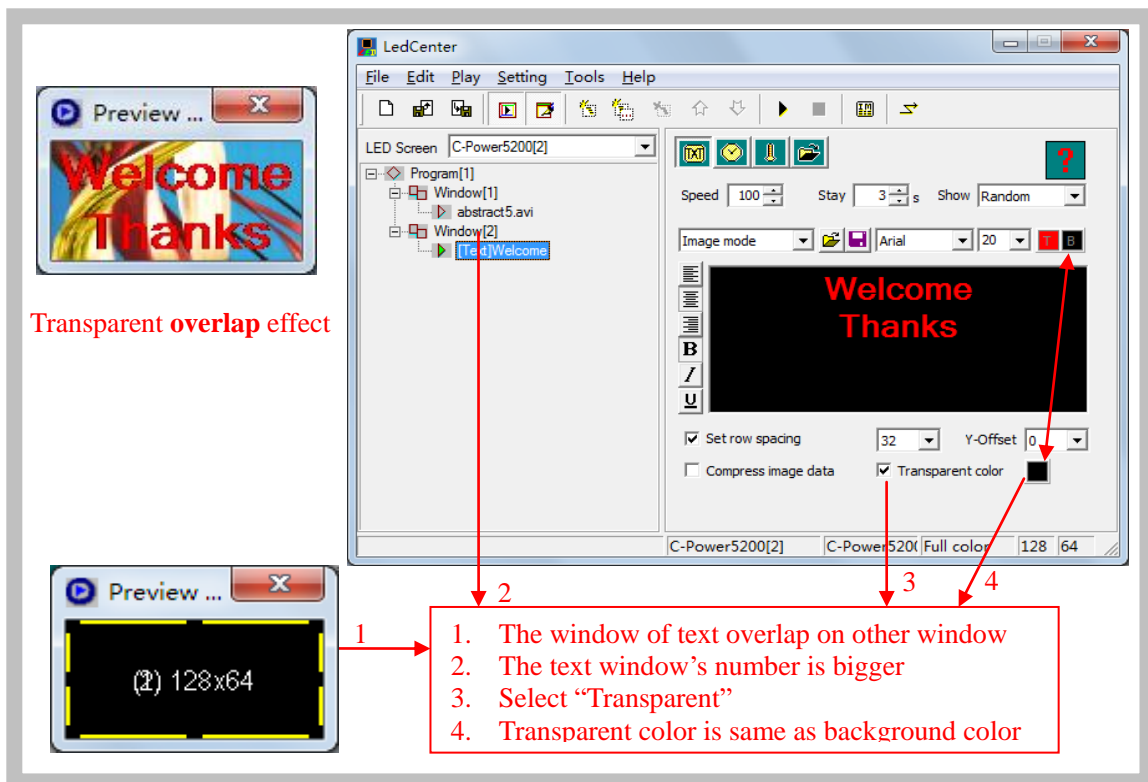


Figure23 Text transparent overlap setting

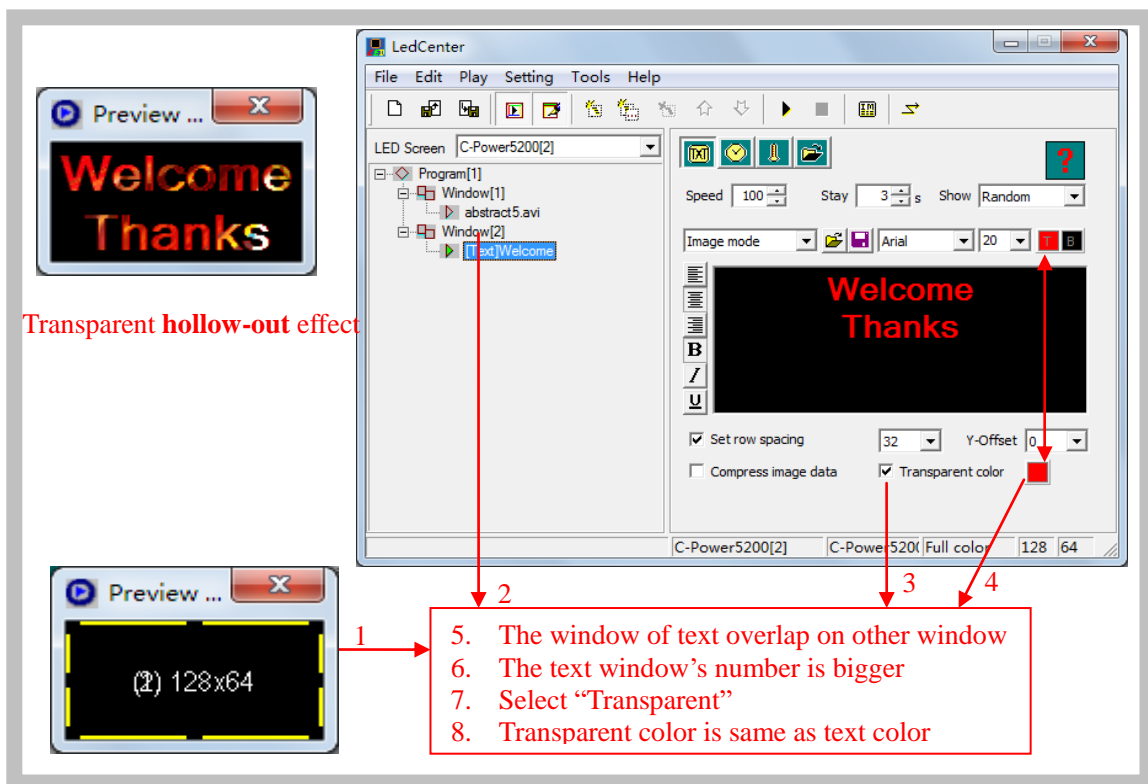



Figure24 Text transparent hollow-out setting

4.3.3.2 Clock type (Analogue or digital clock, count up/down time counter)

In the playbill at the left side of the program edit zone, select the play item to be edited. If “clock” button  is clicked, the type of the play item is clock. Clock type program include: “Clock”, “Time counter” and “work counter”.

1. Clock

- A. Caption: add concise message before clock, size and color can be chosen. This type of program is displayed instantly.
- B. Clock option: select clock display items, display on line or not; selection of data and clock format: many types of format can be chosen.
- C. Show hands and marks: Select the two options to display analogue clock effect.
- D. Time zone: select the time zone, the clock program will display the local time¹ of the selected time zone.

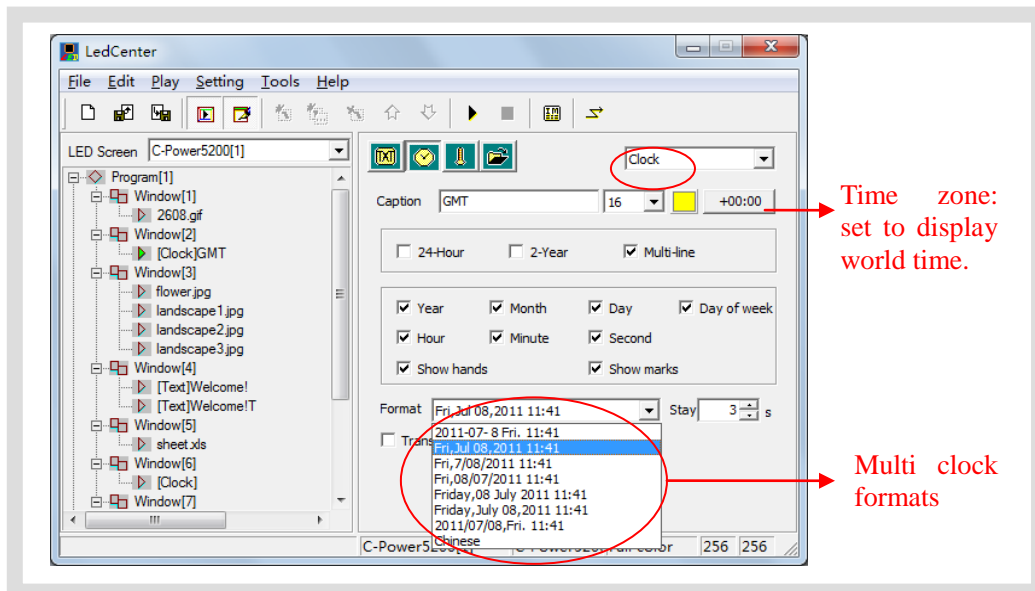


Figure25 Clock program edit interface

- Time adjust: Clock type program will use the real time chips on the controllers to automatically run and display the time, to query and adjust the time, please see the section 4.4.2
- Clock transparent display: as shown in Figure26. User needs to set 3 places to achieve the transparent display effect.
 1. The window of clock should be overlapped with the window to be covered.
 2. The window number of clock should be bigger than the one to be covered.
 3. Select “Transparent”.

¹ Software will select the PC time (for example it's in HONGKONG, GMT+8:00) as the benchmark time. When select another time zone here (for example select Paris, GMT+1:00), the controller will calculate the time different(for example HONGKONG is 7 hours earlier than Paris), and display the (Paris) local time.

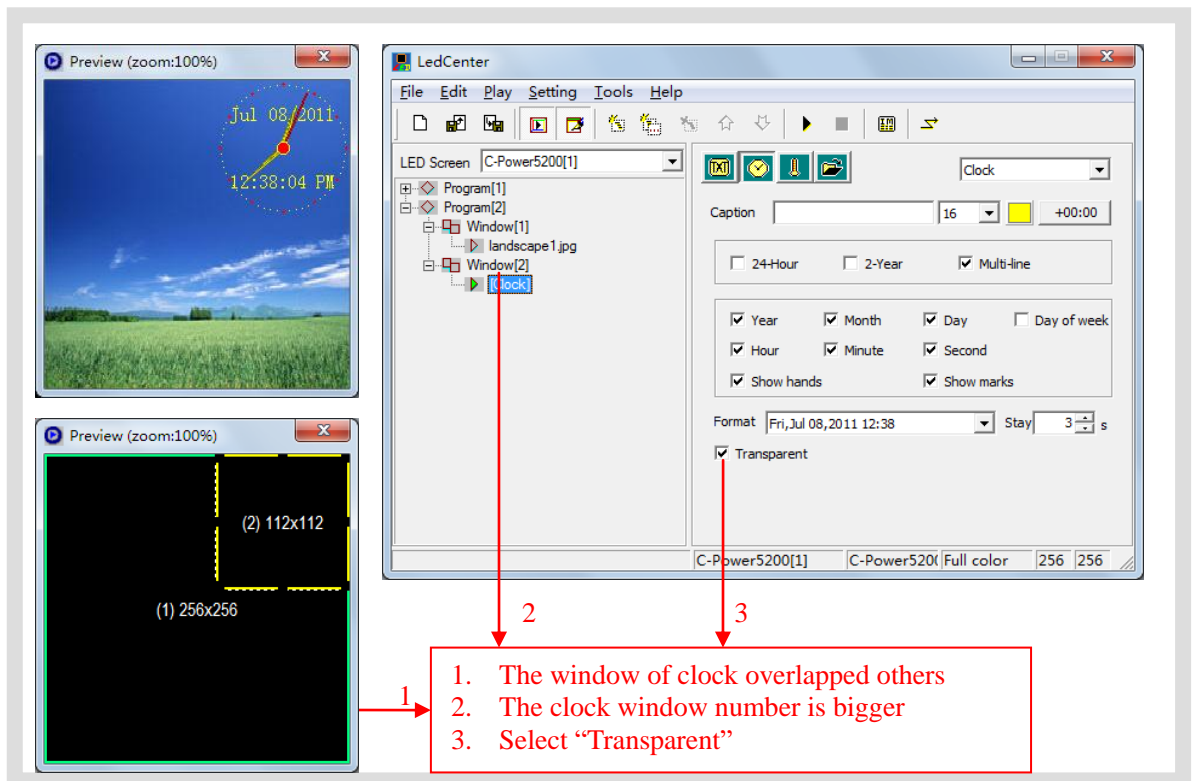


Figure26 Setting of transparent display of clock

2. Time counter

- A. Content: Edit the contents to display, when insert variable tag text (click to insert the variable tag texts below the content input field), the controller will calculate the exact real time variable value to display. For example, the location where insert {!d}, will display the exact value of day different between the real time and the **Base date** and **Base time**, as Figure27 and Figure28 shown.
- B. Type: Count up or counter down.
- C. Base date and Base time: When “count up” has been chosen, the base date and time should be earlier than the real time; when “count down” has been chosen, the base date and time should be later than the real time.
- D. Transparent: Same as clock program, the counter can set transparent and overlap on other window. Refer to Figure26.
- E. Font setting: Font size and color can be chosen. This type of program is displayed instantly.

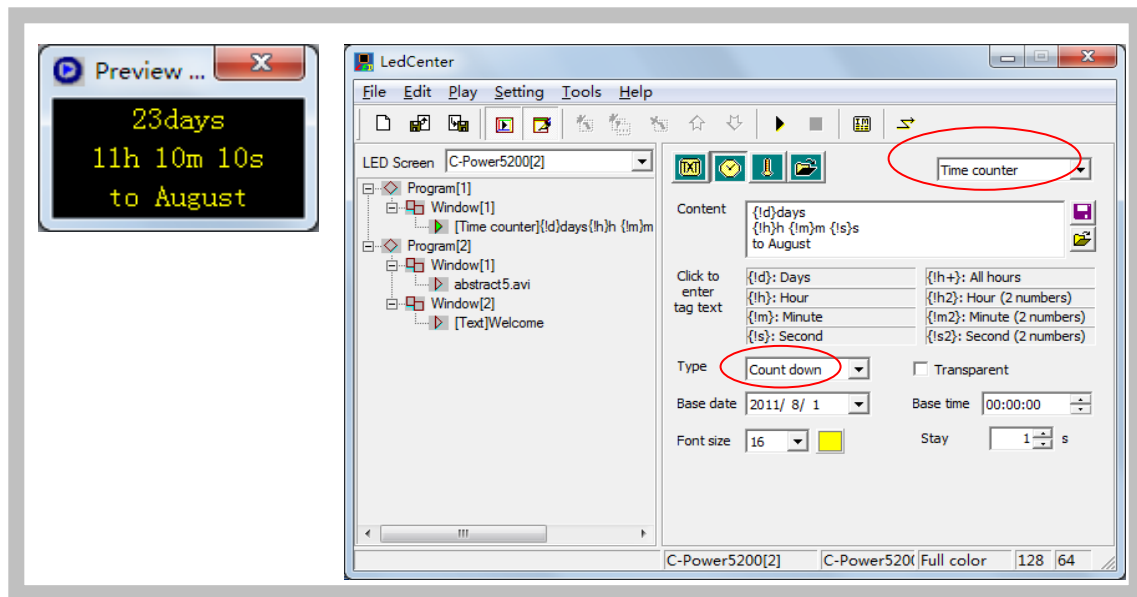


Figure27 Count down setting

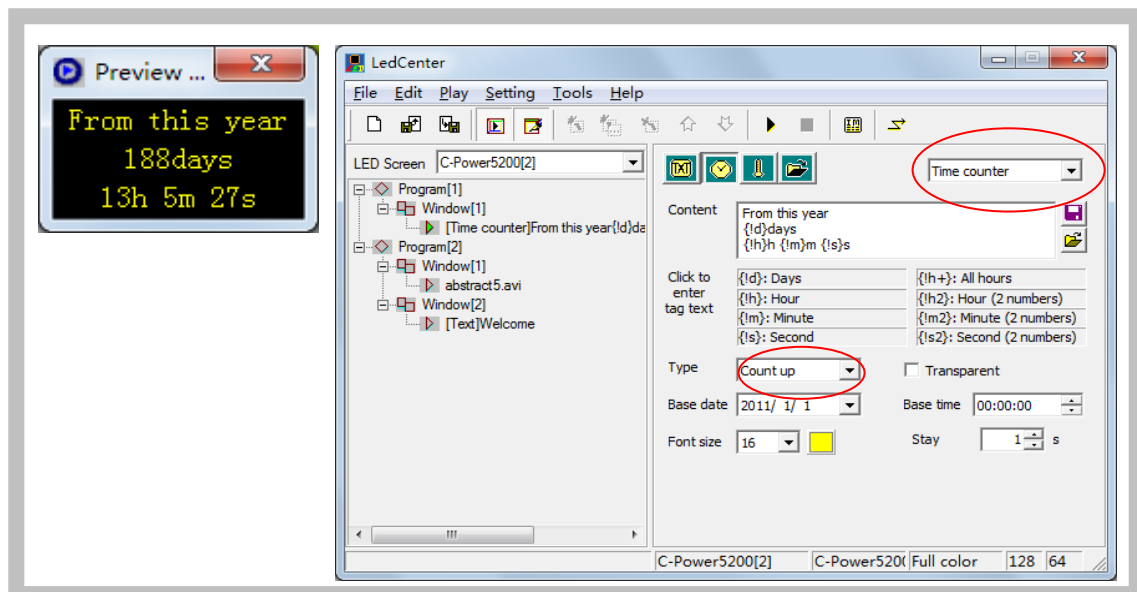


Figure28 Count up setting

3. Work count

- A. Content: Calculate automatically. Set the count type “Count hours” or “Count days”.
- B. Base date and start time: Base date and the count start time (at o'clock sharp).
- C. Hours of day and calculated days: Select the work day which should be counted during a week, and set how many hours should be calculated in the work day (8,12,16 or 24 hours) .
- D. Font setting: Font size and color can be chosen. This type of program is displayed instantly.

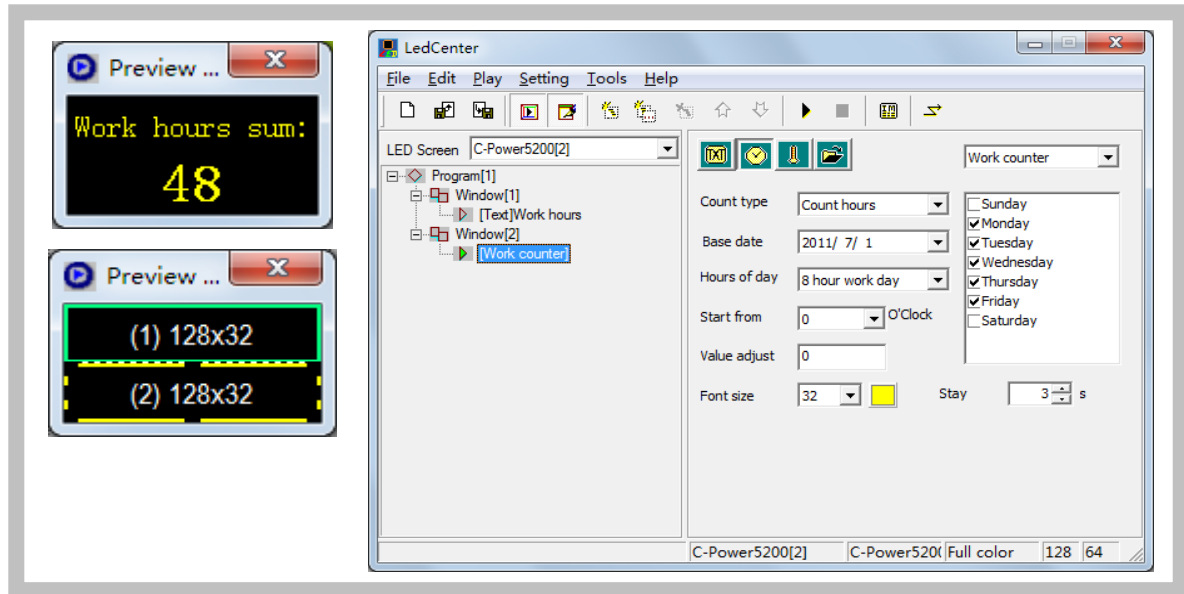



Figure29 Work counter setting

4.3.3.3 Environmental data type¹ (temperature program, humidity program)

In the playbill at the left side of the program edit zone, select the play item to be edited. If “Sensor” button  is clicked, the type of the play item is environmental data type. Please see Figure30.

- A. Caption: User can add concise message before temperature information, and set the stay time and color of the character. This type of program is displayed instantly.
- B. Temperature program: The controller should connect temperature sensor. Select “Temperature”, choose the unit type: “Celsius” or “Fahrenheit”.
 - Temperature adjusted: Because of the location of the temperature sensor, maybe there are some different between the real environmental temperature and the temperature program shows, use the temperature adjusted function to modify the value, please see section 4.4.2.
- C. Humidity program: The controller should connect humidity sensor.

¹ For this type of program, sensors (temperature sensor, humidity sensor and etc.) must be connected externally.

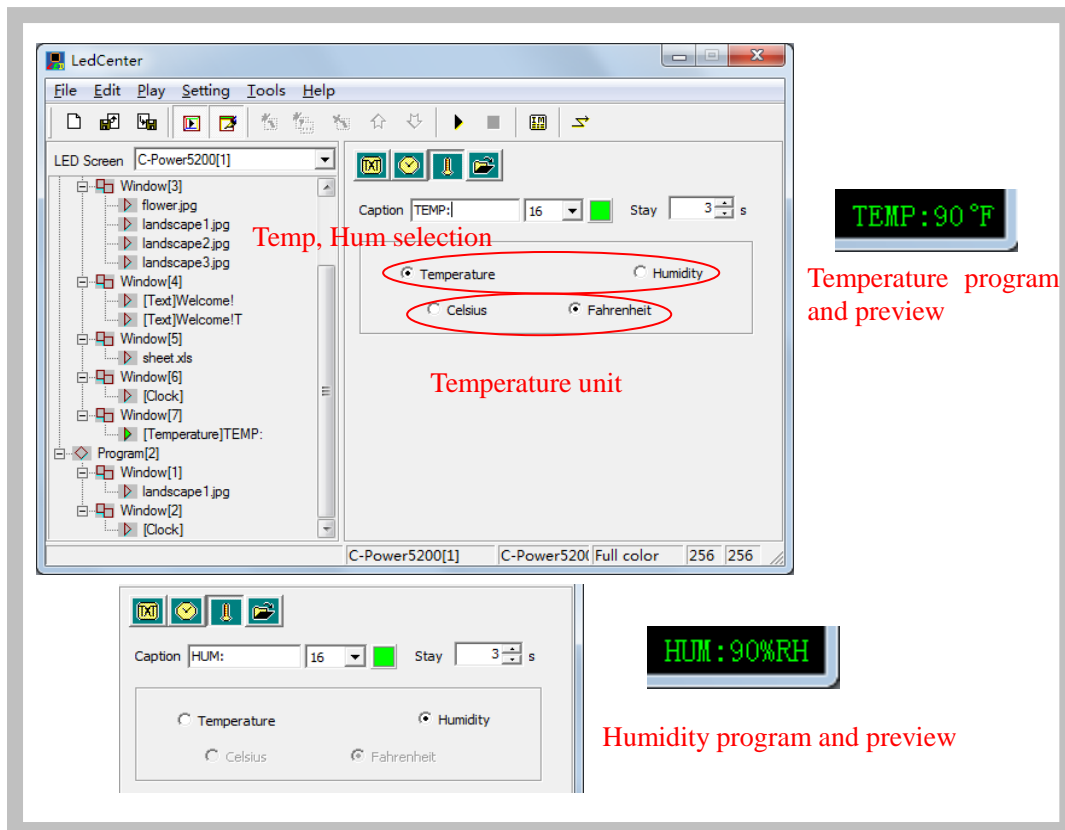



Figure30 Temperature, humidity program edit

4.3.3.4 External document type (text, office file, image, animation, flash, video)

In the playbill at the left side of the program edit zone, select the play item to be edited. If “Document” button  is clicked, an “Open file” dialog box pops up. Please see Figure31.

C-Power control panel supports the following document types:

- “Text files” (*.txt)
- “Office document” (*.doc, *.xls, *.rtf)
- “Image file” (*.jpg, *.bmp, *.gif, *.png, *.tif)
- “Animation or video¹ file”(*.gif, *.avi, *.swf)

More than 60 effects for text, office document and image file; such as: snow fall, mosaic, slide zebra, fan open and etc. User can click the preview window to preview and select effects, as Figure22 shown.

¹ Only C-Power5200 supports video program.

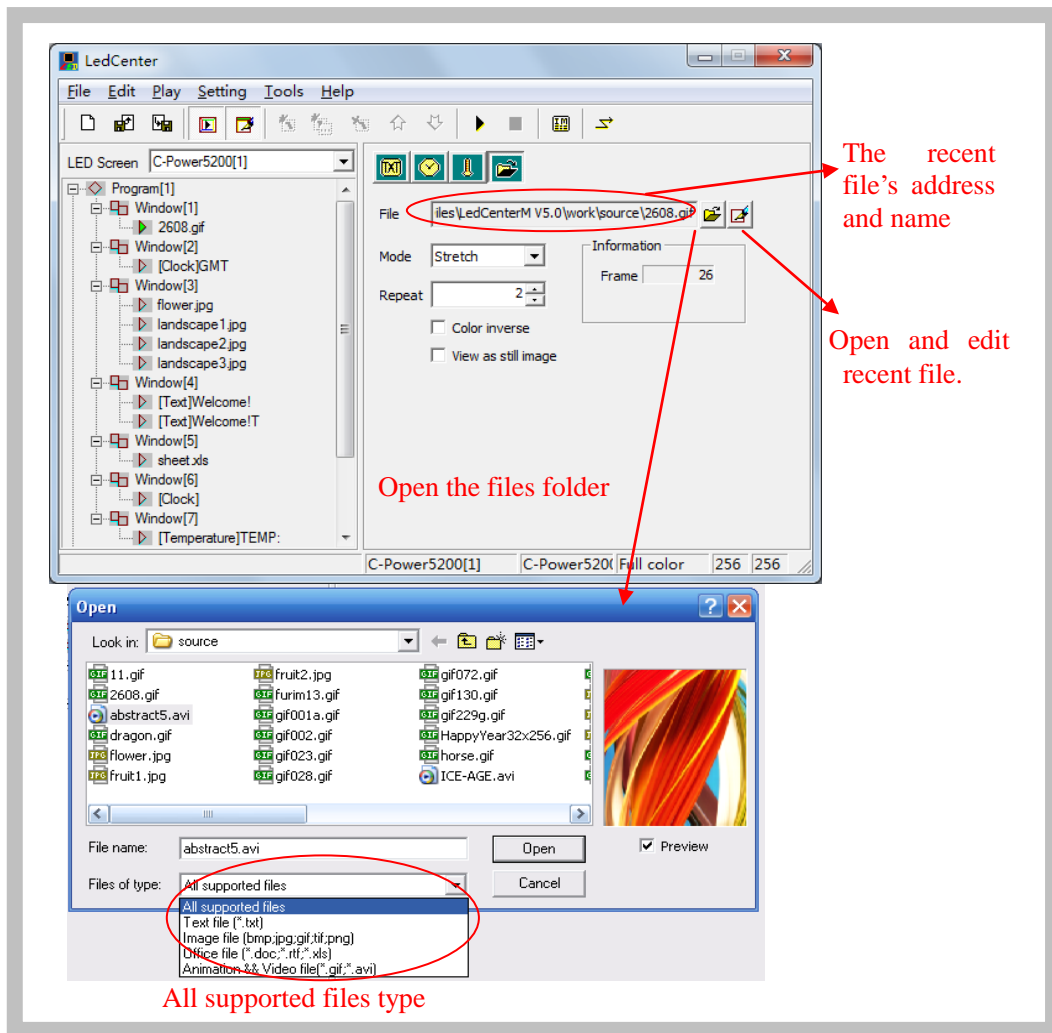


Figure31 Open file window

1. Text file and Office document

When the selected document is Word (*.doc), Excel (*.xls), Text-only format (*.txt) or Rich text format (*.rtf), the attribute box of the relevant documents will appear at the right side of the program editing zone, as shown in Figure32.

- **Effect selection:** Moving “speed” and “stay” time can be chosen. Click the effect pull-down menu to select or click the preview icon to virtual preview and select the text effect, as Figure22 shown. When select the “random” (the preview icon is “?”), the controller will play the text program in random effects.
 - a. Word file (*.doc): **View as text:** text will be recomposed automatically to comply with the size of the window; **Color inverse:** background color and text color will be reversed.
 - b. Rich text format (*.rtf): **Color inverse:** background color and text color will be reversed.
 - c. Excel file (*.xls): **Color inverse:** background color, text color and sheet frame color will be reversed.

- d. Text-only format (*.txt): to set text color.

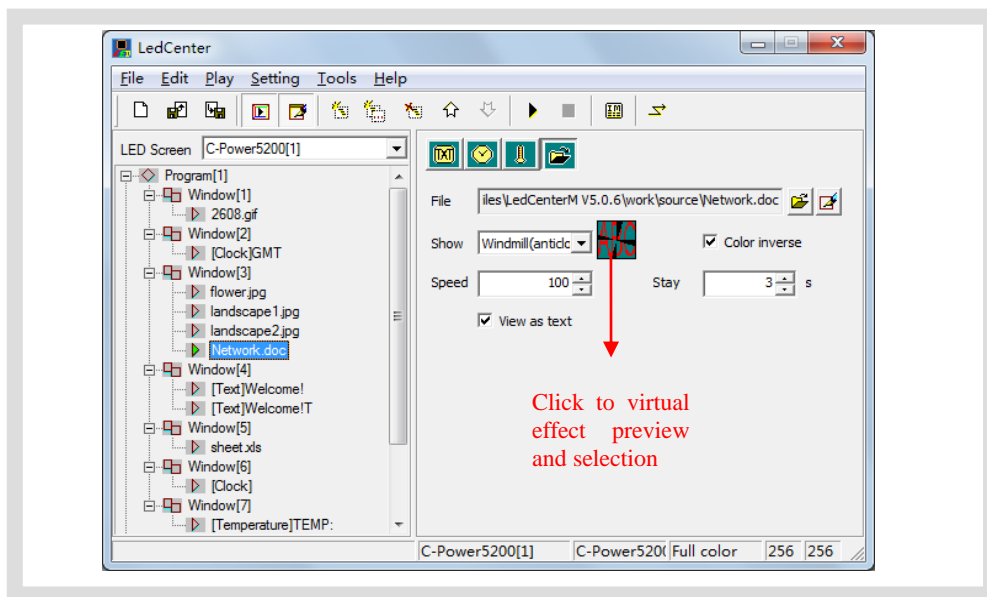


Figure32 Effect setting of Office file

2. Video file

As shown in Figure33, if video file (*.avi) is selected, video image processing “Mode”, “Repeat” times can be set.

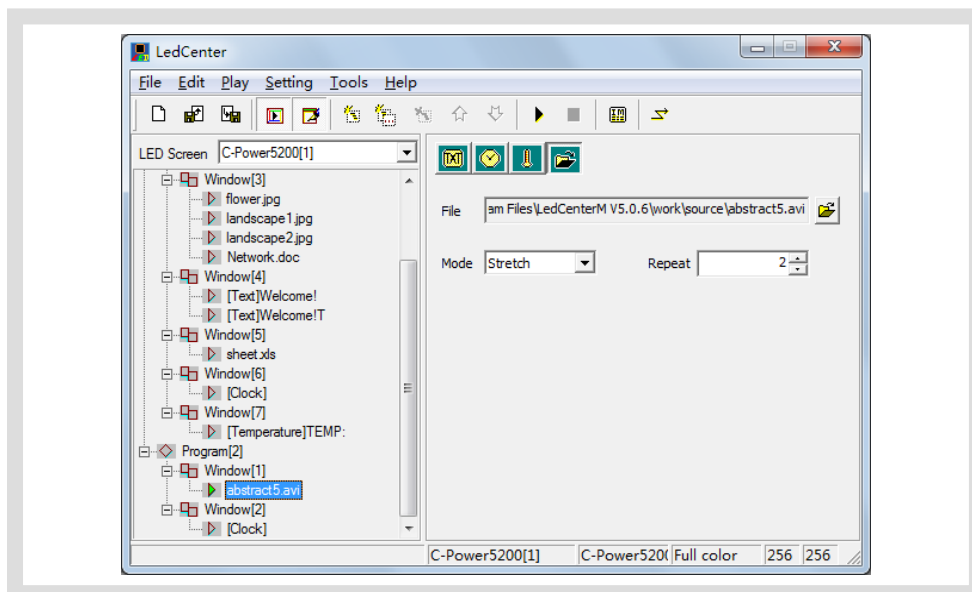


Figure33 Effect setting of video file

3. Animation file

As shown in Figure34, if flash (*.swf) or GIF animation file is selected, animation may be played. The gif animation file will be decompress on the controller, it will greatly reduce data size and time of transmission.

- Picture processing “Mode”, “Repeat” times of animation play and the setting of “Color inverse” can be selected. GIF files can also be selected to be displayed as static picture

(view as still image).

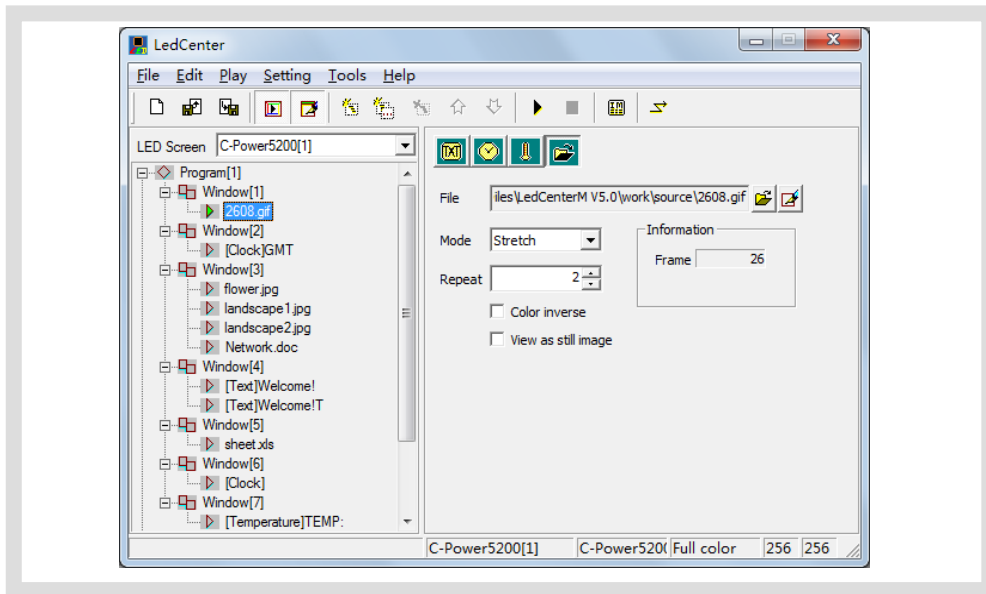


Figure34 Effect setting of animation file

4. Picture file

As shown in Figure35, if JPG, BMP, PNG, TIF files are selected or GIF files are displayed as static pictures (view as still image).

- **Effect:** Moving “speed” and “stay” time can be chosen. Click the effect pull-down menu to select or click the preview icon to virtual preview and select the text effect, as Figure22 shown. When select the “random” (the preview icon is “?”), the controller will play the text program in random effects.
- **Compress image data:** Greatly reduce data size and time of transmission; the picture quality may be slightly reduced.
- **Transparent:** Transparent display when more than one window overlapped. Refer to the text transparent setting, see section 4.3.3.1.

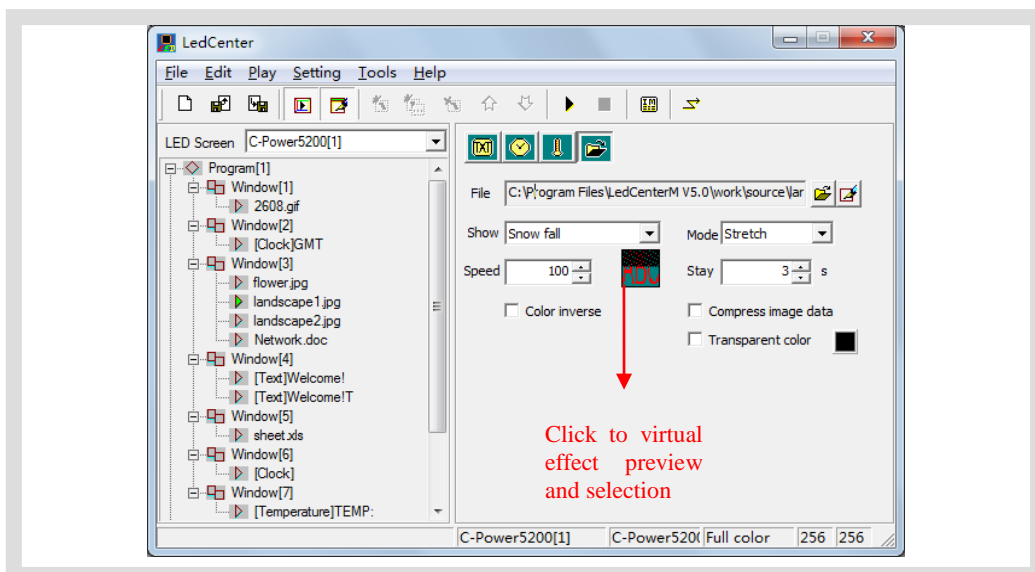




Figure35 Effect setting of picture file


4.3.4 Program preview

After program edit is completed, user can preview the program in the preview window:

- 1) Click “Play” – “preview” in menu bar or  button in the tool bar. In the preview window, the effect of this display screen can be shown.
- 2) Click “Play” – “Stop” or press  button in the tool bar, stop preview.

4.3.5 Program data sending (network, serial port, USB flash disk)

After program edit and preview confirmation are completed, send the well-edited playbill to the main control panel of the screen:

- 1) Click “Play” – “Send program data...” in main menu; or click  button in tool bar, and the box "Send data to LED screen" ¹pops up. The choices are:
 - Send to current: send program data to the current panel.
 - Send the selected: send the program data of the selected panel at the left side “LED screen list”.
 - Send One to Multi: send the current program data to more than one screens.
 - Send to USB disk²: send the current panel’s program data to the USB flash disk; transfer the data via USB disk.
 - Format screen: if there are some error caused it can’t refresh the card’s program data, format the screen and send the data again.
 - Show data of screen: read the cards and show the program files in screen.
- 2) When the computer has connect to the controller directly, click “Send to current” or “Send to the selected”, the computer will send the data via the network or serial cable, as shown in Figure36 and Figure37.

¹If “one button send data to screen” selection in the Option page has been chosen (see section 5.1 and Figure51), when click “Send program data” button, the “Send data to LED screen” dialog box will not pops up, the computer will “send to the current” screen directly.

² Only for the controller which is USB version.

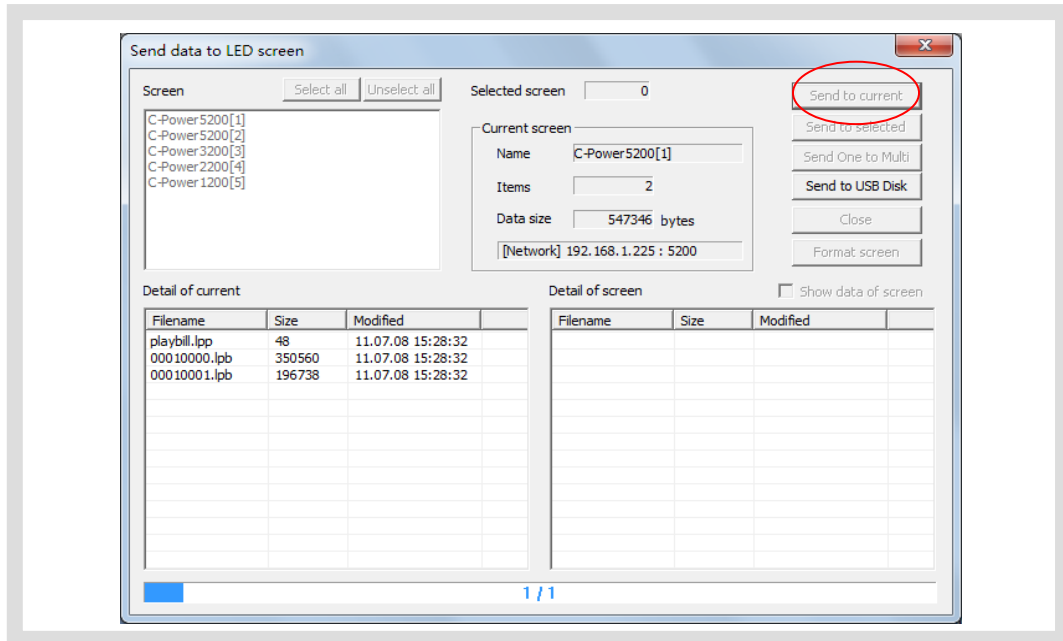


Figure36 Dialog box of sending data

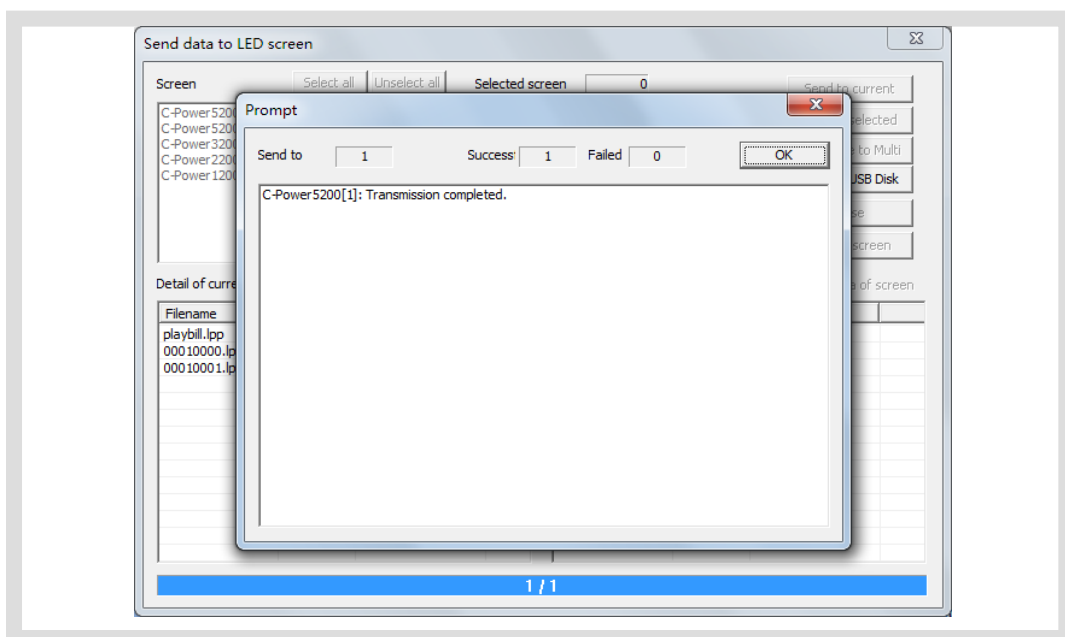



Figure37 Data sending completed

- When transfer the program data via USB flash disk (the controller should be USB version), the USB flash disk can plug into the computer's USB interface, and then click "Send to USB disk" button, as Figure38 shown. Select the USB disk's driver letter, then click send button. The files include control files and program data files, as Figure39 shown.

 Notice: Insert the USB flash disk into the controller's USB interface, the controller will read the data automatically. Don't modify the USB disk data by yourself before using.

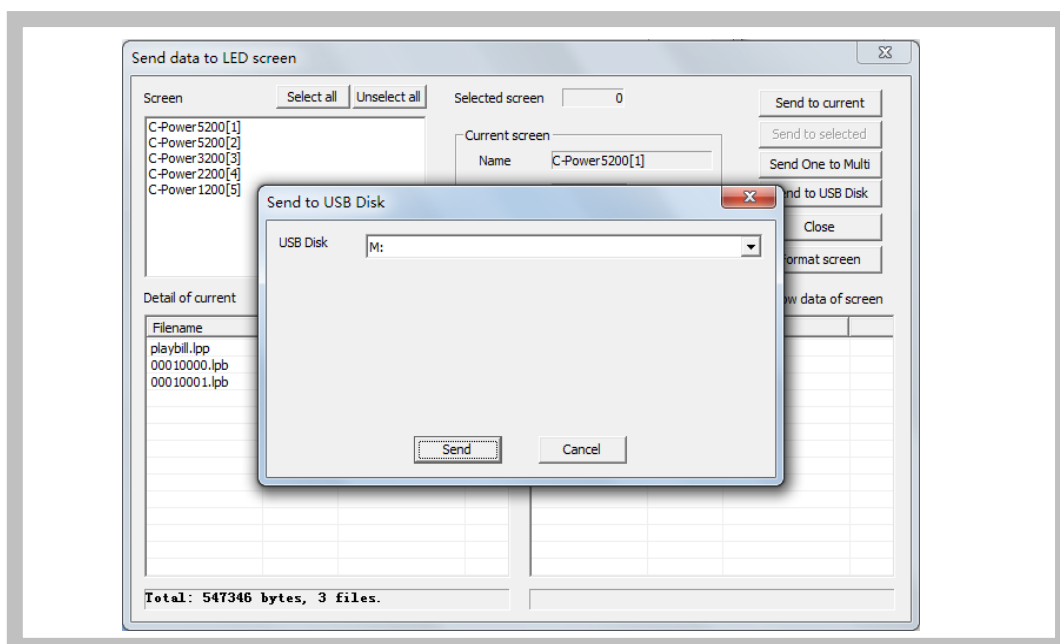


Figure38 Send the program data to USB flash disk

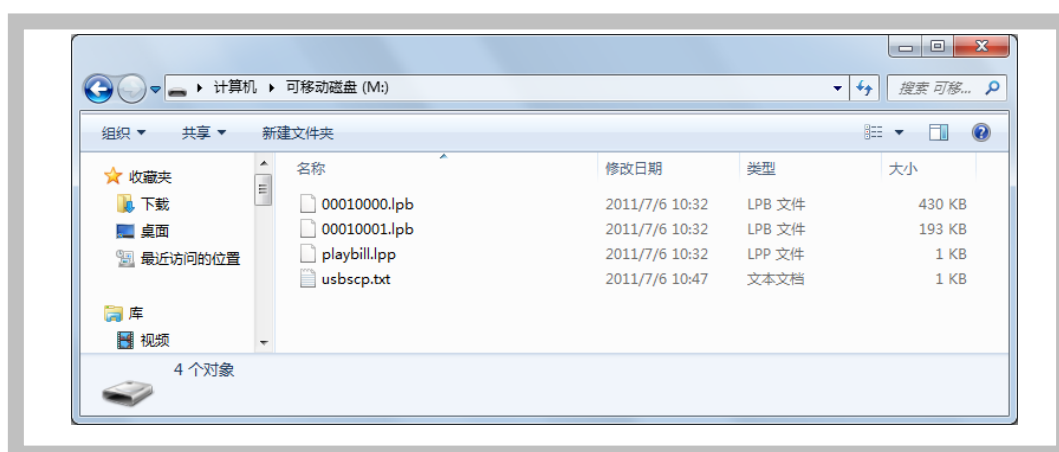


Figure39 The files list in USB disk after sending

4.4 Play management

4.4.1 Playing schedule

Function description: Powerful schedule management tools, the programs can be set to play at the specified date, specified days of week, and their association.

Steps:

- 1) Click “Edit” – “playing schedule” in menu, pops out the “Edit playing schedule” dialog box, as Figure41 shown
 - When there are no any playing schedule, or the schedules do not cover all the time period, to avoid the screen black, the “Undefined time play all programs” selection is be selected default.
 - The controller will play the appointed programs as the schedules.

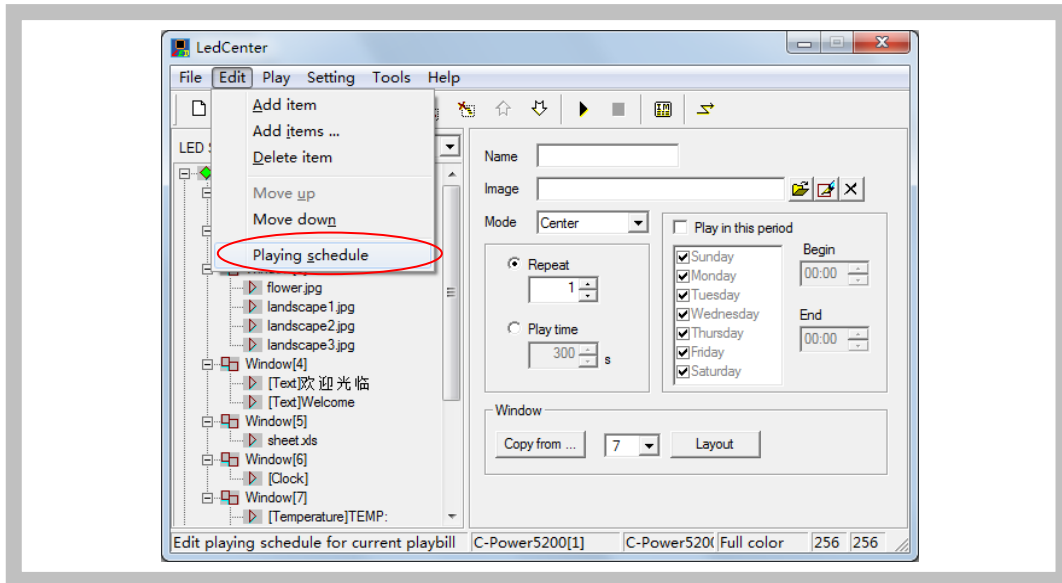


Figure40 Enter playing schedule edition

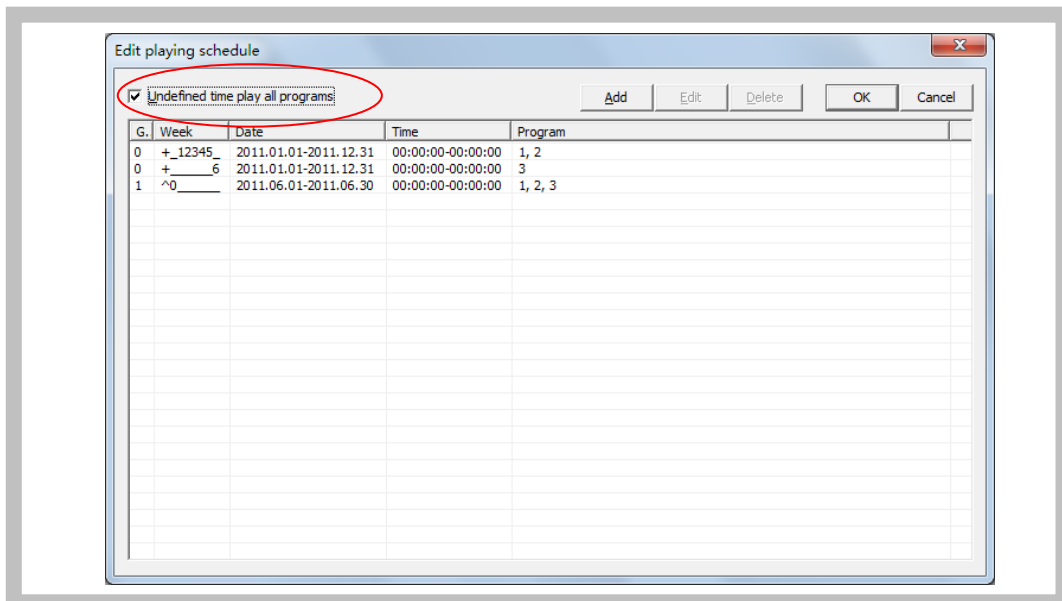


Figure41 Playing schedule list

2) Click "Add" button, or select an old schedule and click "Edit" button, the "Play schedule item" dialog box pops up, as Figure42 shown.

- Item grade: Every schedule item has a grade, when two or more schedule items conflict; the item which has higher grade will be executed first.
- Relationship of date and day of week: The playing schedule can be set to according to the date, or according to the day of week, or their association:
AND: Playing at the special date AND the special day of week, when both of date and day of week requirements have be met.
OR: Playing at the special date OR the special day of week, when one of the date or day of week requirements has be met.

- Time:
 - a. Start time equals to end time: for example, the start time is “00:00” and the end time “00:00”, the program is played all the day.
 - b. Start time is less than the end time: for example, the start time is “8:00” and end time “20:00”, the program is played during “8:00~20:00”
 - c. Start time is greater than end time: for example, the start time is “20:00” and the end time “8:00”, the program is played during “20:00 ~ 23:59” and “0:00 ~8:00”.
- 3) The playing schedule will be sent to the controller with the program data sending (sector 4.3.5).

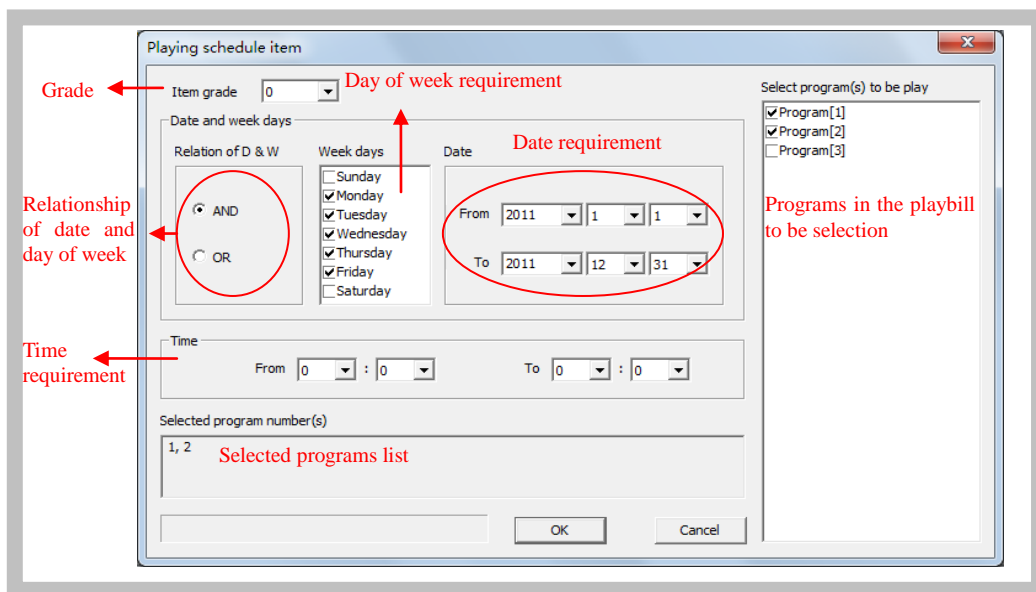


Figure42 Edit a playing schedule

4.4.2 Setting and inquiry of screen time and temperature (read and adjust)

Function description: set or calibrate the time of real time clock of current screen.

Steps:

- 1) Click “Setting” – “Date time & temperature” in menu. The dialog box of “Time & Temperature” pops up.
- 2) Select the screen (from the screen list on the right) which is connected with the computer. Hold Ctrl key and click the screen list, user can select multiple screens.
- 3) Time set and read: as Figure43 shown.

Input time manually or adjust according to the current computer time, and then click “Set to screen”.

Click date and time’s “Read from screen” button, read back controller’s current real time.

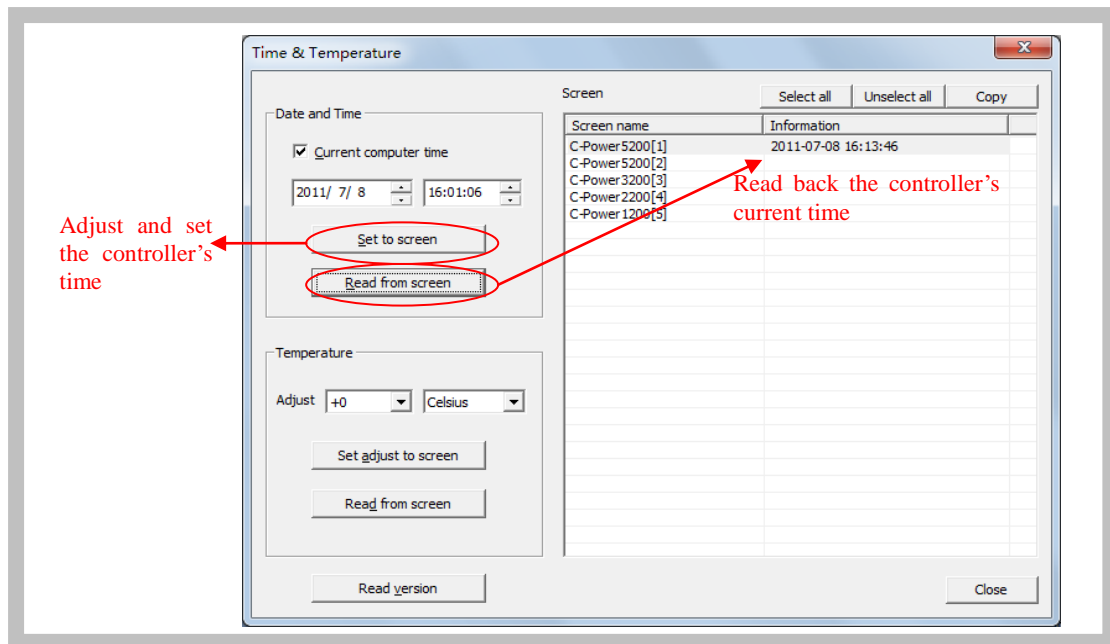


Figure43 Time setting

- 4) Temperature adjusted and read: the controller will detect and display the environmental temperature in temperature program when it has connected temperature sensor. Because of the location of the temperature sensor, maybe there are some different between the real environmental temperature and the temperature program shows, use the temperature adjusted function to modify the value. Click temperature's read from screen button to read the temperature value which detected by temperature sensor.

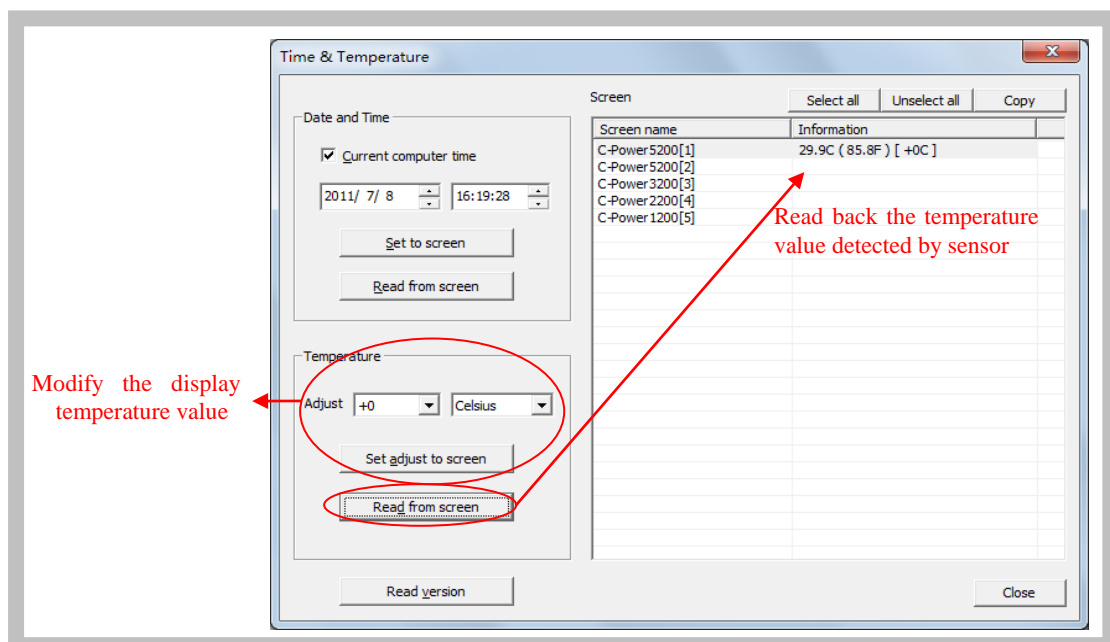


Figure44 Adjust and read temperature

- 5) Inquiry the controller's version: Click "Read version" button to read back the controller's version information.

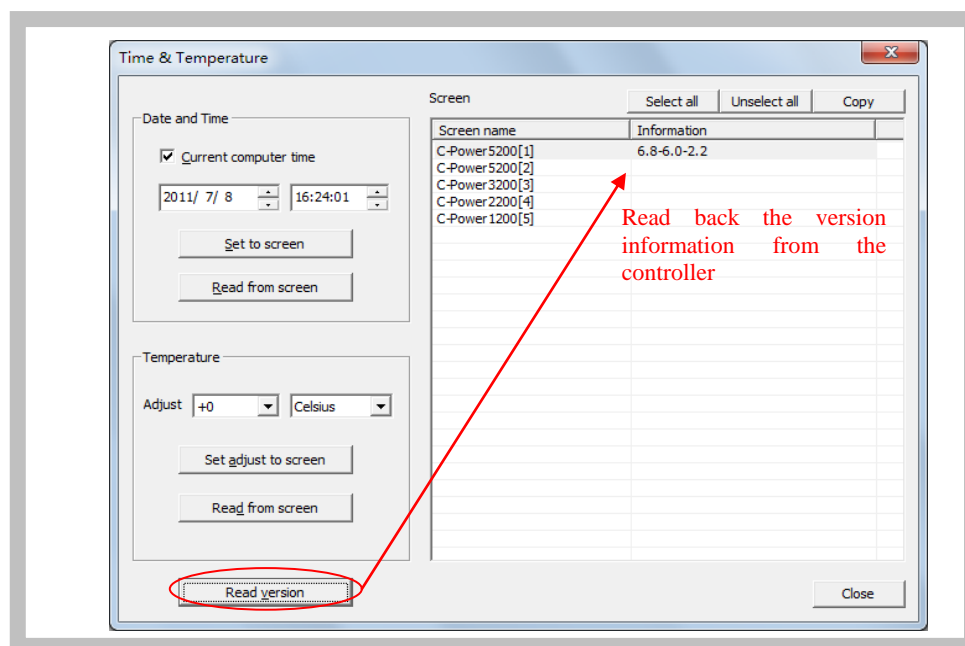


Figure45 Inquiry controller's version information

4.4.3 Setting and inquiry of auto task (Auto turn on/off, brightness setting)

Function description: set automatic on/off; set screen brightness.

Steps:

- 1) Click "Setting" – "Auto task" in menu. The dialog box of "Auto task manager" pops up, as shown in Figure46.
- 2) Power on/Power off: to set the ON/OFF time of the screen; during "ON-OFF" time period, the screen is turned on, while during "OFF-ON" time period, the screen is turned off.
- 3) Brightness:
 - Drag the rulers, set all the time or some period time's brightness
 - Click and select the appoint time period (hour), and then drag the ruler on the right side to set the appoint brightness. The 24 hour's list can browse the brightness setting.
 - Brightness setting range:
 - Set from "0" to "31": 32 grade fixed brightness set.
 - Set to "-1": The screen adjusts the brightness automatically, but the controller must connect brightness sensor, the controller adjust the screen's brightness based on the environmental brightness which detected by the sensor.
- 4) After setting is completed, select the target screen and click "Set to screen".
- 5) Before or after sending, click "Read from screen" button to search the setting condition of the current auto task of the main control panel.

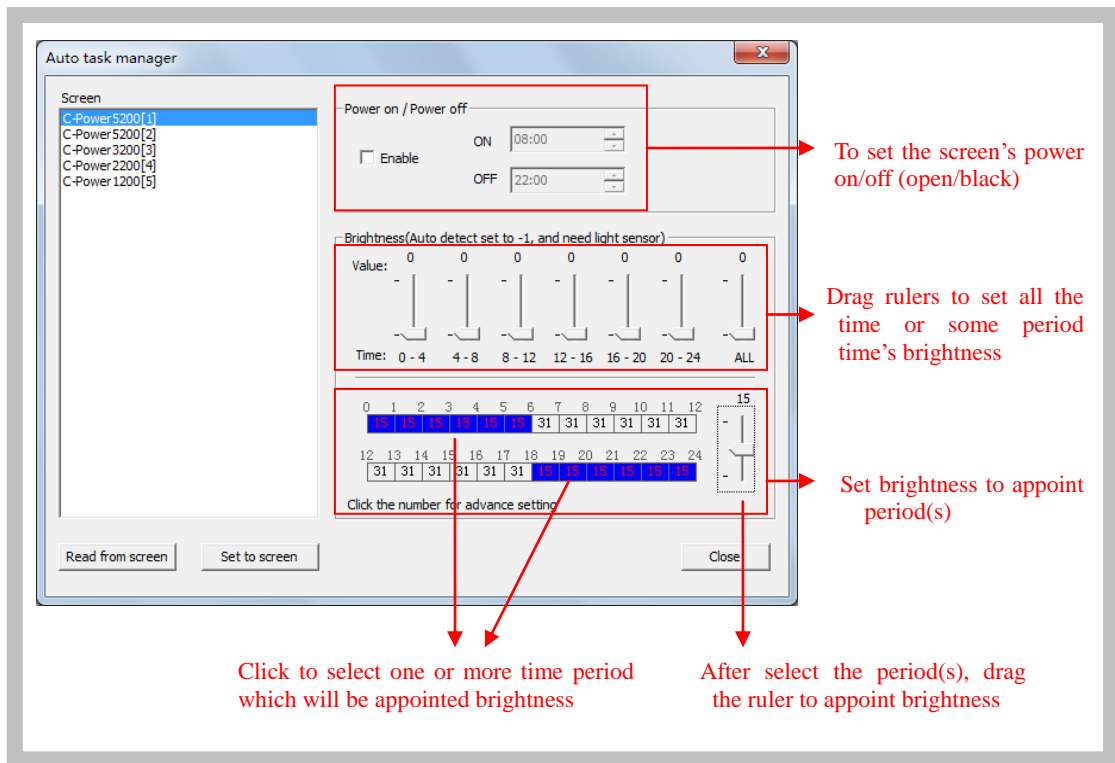


Figure46 Auto task manager

5 Other functions

5.1 Software option (preview window location, default setting)

Select “Setting” – “Option”, user can set the display of the software, as shown in Figure47.

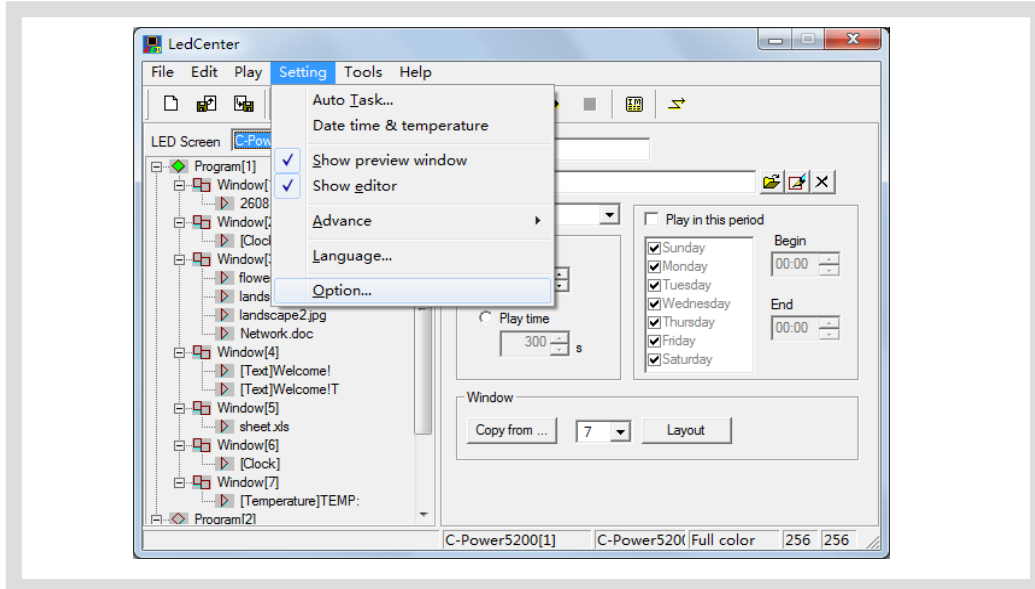


Figure47 Go to “Option” dialog box

1. “View” page

Main window view:

“Minimize window to system tray bar”: if this setting is selected, the software window is


minimized to system tray bar by clicking .




Figure48 Minimize window to system tray bar

Preview window view:

A. Align to main window: to set the position of preview window whether it is aligning to the main window.

- Freedom: the preview window is not aligning to the main window. User can move it to any place.
- Align top: fixed the preview window to the top of the main window.
- Align bottom: fixed the preview window to the bottom of the main window.
- Align left: fixed the preview window to the left of the main window.
- Align right: fixed the preview window to the right of the main window.

- B. Preview window always on top: the preview window is always on top, which can't be covered by other program window.
- C. Hide preview window when application startup: when application starts, preview window will not be displayed. Click  to display.

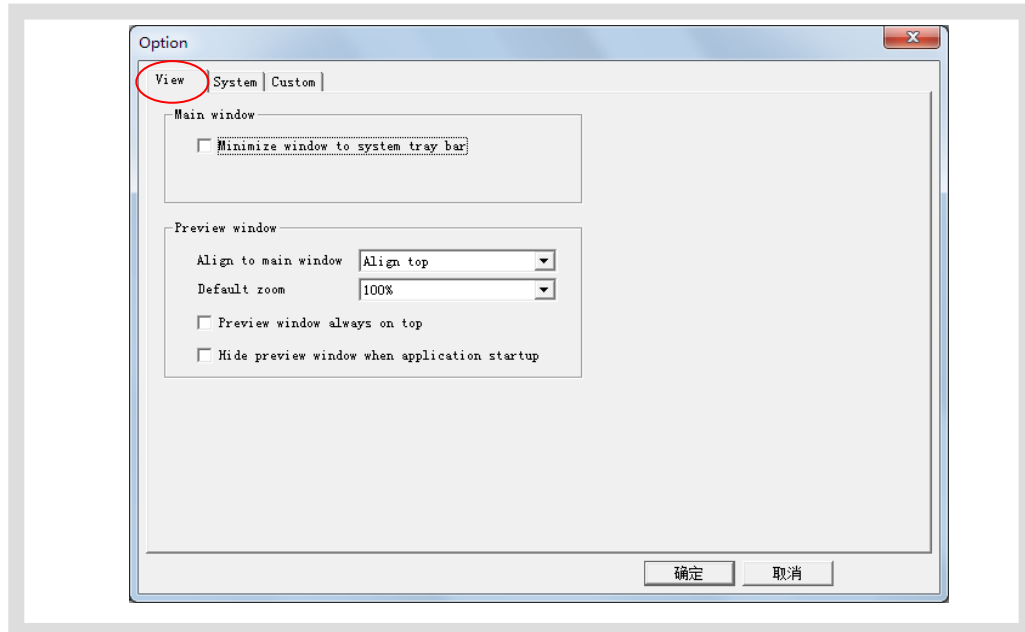



Figure49 Option dialog box

 Tip: right click the preview window and see the display times (100%, 200%, 300%, 400%). The preview window can be zoomed in or out.

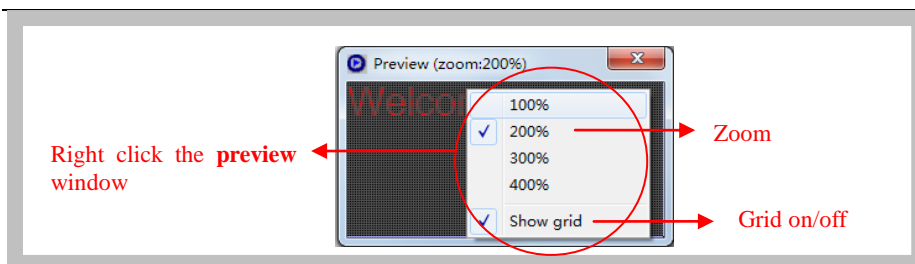


Figure50 Preview window setting(right click)

2. "System" page: to set the shut down time of Windows system.
3. "Custom" page: to set the default text program type, clock program format and so on.

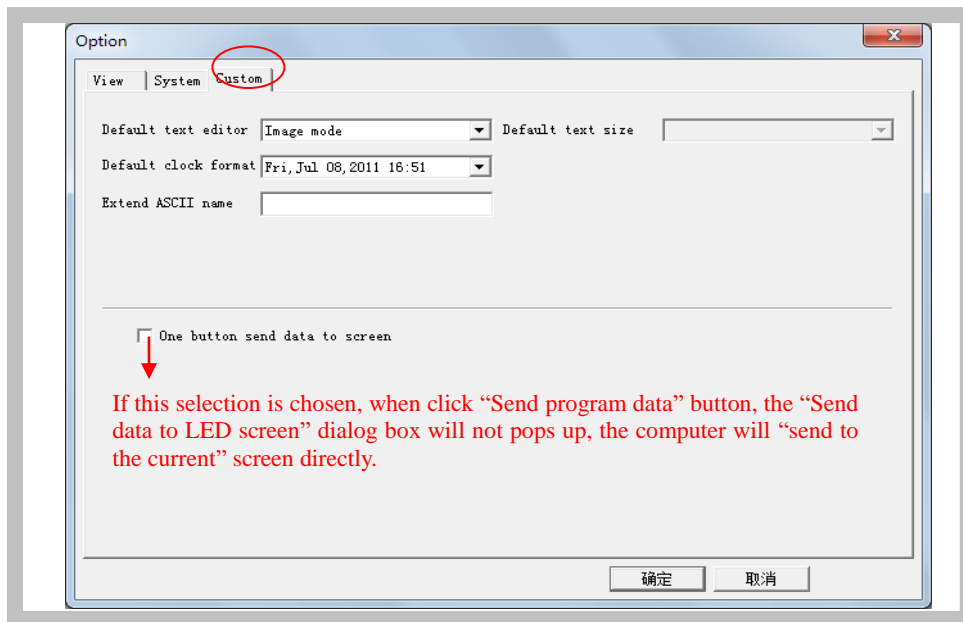



Figure51 自定义选项

5.2 Playbill advanced management (Export and Import)

After LED screen definition is completed (see section 3.4.2), **LedCenterM** sets up program data for each screen and save them automatically.

5.2.1 Build new playbill


Target: Clear the old playbill of current screen and create new one.

Method and step: click “File” – “New” in menu bar, or click  in tool bar.

5.2.2 Export program data

Target: export the program data of well-edited current screen to playbill file (*.lpl).

Method and step:

- 1) Click “File” – “Export” in menu bar, or click  in tool bar.
- 2) Select export position in the dialog box “Export to playbill” (as shown in Figure52) and enter the export file name. Click “Save”. The playbill file of current panel will be stored to the file.

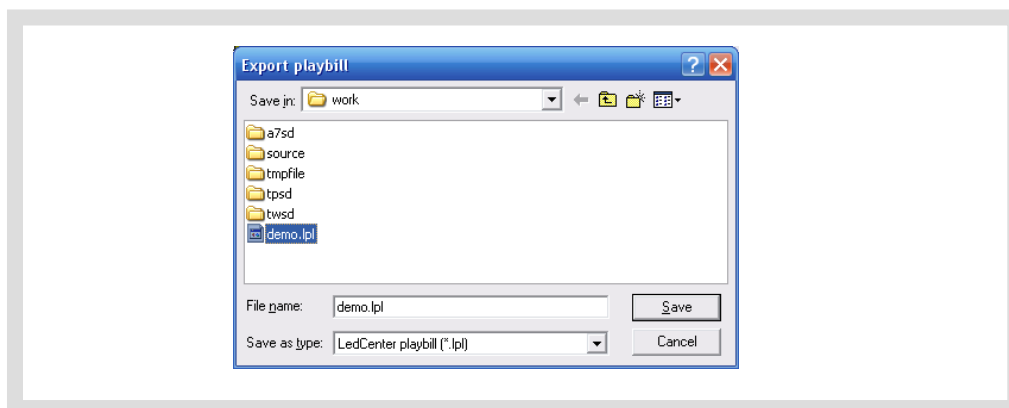



Figure52 Dialog box of export playbill

5.2.3 Import program data

Target: import the program data which are well-edited.

Method and step:

- 1) Click “File” – “Import” in menu bar, or click  in tool bar.
- 2) In the dialog box “Import playbill” (as shown in Figure53), select the program file (*.lpl) to be imported. The “Information” at right side of the dialog box shows the screen parameters of the program file. Confirm the imported program consistent with the parameters of current screen.
- 3) Import to multiple screens: if select the option “To multiple screens” as shown in Figure53, a dialog box “Import to multiple screens” as shown in Figure54 pops up after a file is selected. Hold Ctrl key and click the screen list, user can select multiple screens, and then import the program file to multiple screens which is consistent with the file information.

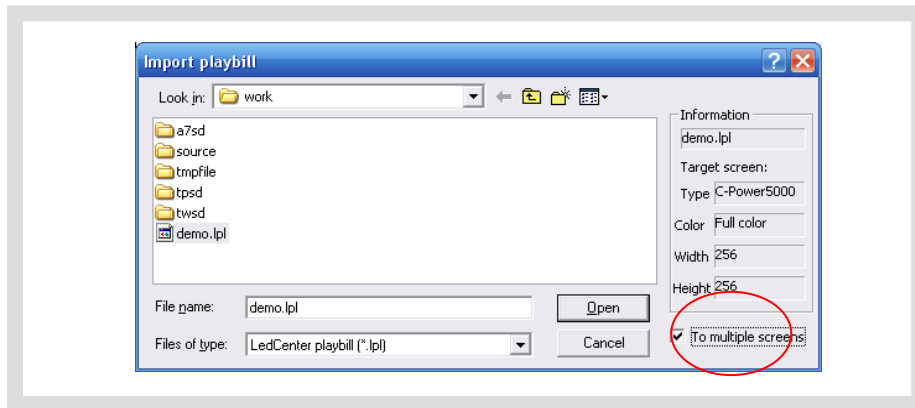


Figure53 Import playbill

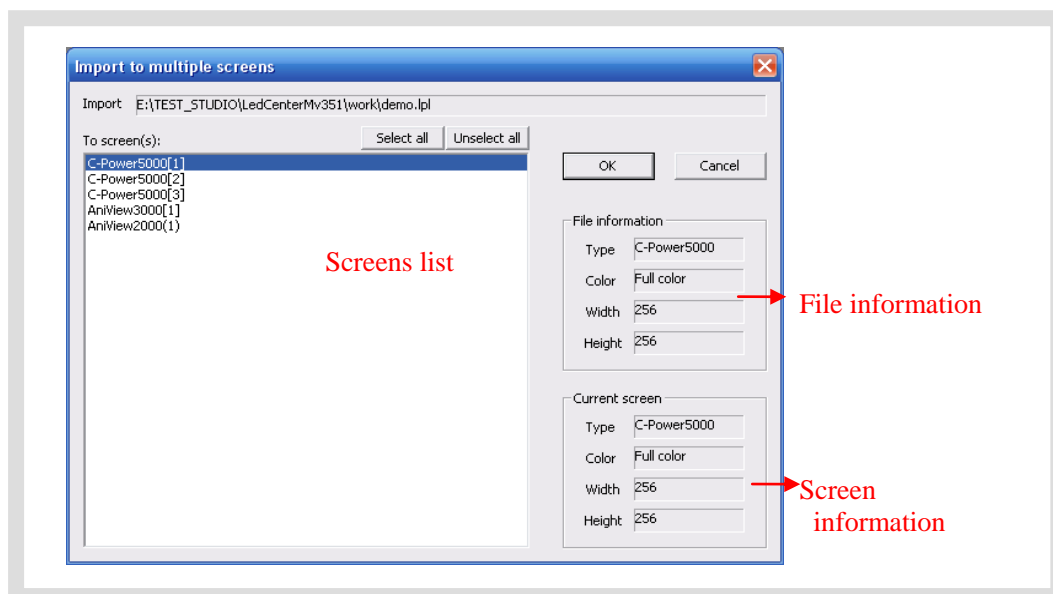


Figure54 Import to multiple screens

6 Appendices

6.1 Button function of tool bar















No.		Function	Corresponding position in main menu
1		Create new playbill	"File" – "New"
2		"Import" playbill	"File" – "Import"
3		"Export" playbill	"File" – "Export"
4		Display/close the program preview window	"Setting" – "Show preview window"
5		Display/close program edit zone	"Setting" – "Show editor"
6		Add one playbill item	"Edit" – "Add"
7		Add items	"Edit" – "Add items"
8		Delete one playbill item	"Edit" – "Delete"
9		Move upwards the selected playbill item	"Edit" – "Move up"
10		Move downwards the selected playbill item	"Edit" – "Move down"
11		Start to preview programs	"Play" – "Preview"
12		Stop previewing programs	"Play" – "stop"
13		Send notice	"Play" – "Send notification"
14		Send well-edited program data to panel	"Play" – "Send program data"

Table1 Button list of console tool bar

6.2 Trouble shooting and warning dealing

	Trouble or warning	Check software	Reason and resolution
1	Not found the LED screen with ID × ; can't send data! (or setting fails, reading from screen fails, etc.)	When communicating with the screen, software detection warning happens under the following conditions: send program data, set the screen clock, set the auto task, etc.	1. Computer and screen control panel are not well-connected. Check the communication port and its setting, cable, (for example: baud rate, COM port, IP address of network port), etc. 2. Screen ID number is inconsistent with LED screen definition. Check the screen ID number and LED screen definition, etc.
2	Sometimes there is not any program to be played.	When sending program data, software warning happens.	The warning happens if all programs are set "Play restricted by time period" and the designated program isn't played during the time period. Please note that the program is normally played every day and every hour.
3	The playbill refers to inexistent external file(s).	When sending program data, software warning happens.	For play items of "external document type", the corresponding document isn't found. Check whether the route of each external document is correct.
4	Importing program data fails.	When importing program data, software warning happens.	The parameters of the imported program data are inconsistent with the current screen.

Table 2 Quick search for trouble shooting and warning dealing