

LC Net Plus Software Operation Manual

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1 Preface

1.1 Software application background

Thank you for using LC Net Plus software.

LC Net Plus (asynchronous display version) is intended for the control system of LED asynchronous

display and its main functions are:

- Editing and creating programs for CT series LED screen control systems.
- Program related operations: program definition, setting program window layout, program editing, program sending, program preview and adjustment, etc.
- Setting function: automatic tasks, time and communication port settings, etc.

1.2 File description

This LC Net SoftwareV6.1¹ manual describes how to control and manage a CT gray-scale LED screen with LC Net Plus software.

¹ Note: Functions may differ due to version. Click "Help" – "About" on the menu, to find your software version.

2 Introduction to CT control system

2.1 System configuration

The CT control system consists of:

- A. The main control board: directly controls the program display and management of the LED display screen.
- B. **LC Net Plus** software is the supporting software for the CT control system. **LC Net Plus** connects with the main control panel, typically through the computer network or COM port.
- C. Other supporting accessories: directly connected to the main control panel and perform special functions, for example: brightness sensor, temperature probe, humidity probe, etc.

2.2 System communication

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

- Serial port mode
- **RS232**: With RS232 mode, the computer COM port connects to the main control panel directly. LC Net Plus simultaneously manages and controls one LED display through one computer serial port.
- <u>RS485</u>: With RS485 mode, the computer COM port connects to the main control panel through the RS232 ⇔RS485 converter. The main control panel can be linked using a RS485 cable; which will allow LC Net Plus to simultaneously manage and control up to 255 LED displays through one computer serial port.
- TCP/IP network mode
- 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 mode
- Save your message to a USB flash disk, when the disk is plugged into the controllers 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 a public wireless band by connecting wireless module (for example: RF module, Bluetooth or ZigBee Module).

3 Brief introduction and basic settings

3.1 Software Characteristics

Main features of LC Net Plus V6.1¹:

• Supports CT series control systems.

CT 5200 supports RGB full color, 256 gray degree scale.

CT 4200 supports RGB color, large size, no-gray scale.

CT 3200, CT2200, CT1200 supports RG dual colors, no-gray scale.

- Supports multi-communication modes such as network, serial port, USB flash disk and more.
- With clear and simple interfaces, users can easily make, play and control programs.
- Software menu is easy to use allowing fast, easy message entry and edits.
- With hierarchical management of programs in each menu type to provides a clear structure for convenient maintenance.
- With multi-program modes, multiple programs can be stored.
- Up to 10 windows can simultaneously play different action modes; each window can be enhanced with a flashing surround to highlight the window.
- CT control systems supports various program types such as video, animation, photographs, Word/Excel, clock, text, etc.
- Supports text program which can be edited in several languages, any font and any size.
- Text program can be set to be transparent or hollowed-out, and overlay a picture, animation or video program.
- Supports temperature display (temperature sensor must be installed externally).
- RTC management and settings of Real-Time Clock, to display analogue or digital world clock. Time counter (count up or down).
- In networking mode, up to 256 LED screens can be networked and managed.
- Programs can be played according to a play schedule.
- Multiple adjustment modes such as manual, time or automatic adjustment (brightness sensor must be installed externally).

3.2 Software running environment

- 3.2.1 Computer Compatibility
- OS: Windows2000, Windows XP, Windows Vista, Windows 7 (32 or 64 bit).
- 3.2.2 External running environment
- LC Net Plus is the supporting software for your LED display control system.

The communication connection modes are: serial port, network port, etc., plus the USB controller version can transfer program data by USB flash disk.

3.3 Software installation and uninstall

3.3.1 LC Net Plus

 $^{^1\,}$ Note: functions may differ due to the type of control panel; also, functions may differ due to software version. LC Net Plus 6.1

Run "LC Net Plus_V6.1.exe" located on the install CD, simply follow the prompts.

To uninstall, run "Start" - "All programs" - "LC Net Plus 6.1" - "uninstall LC Net Plus".

3.3.2 Video decoder

To display videos, first install video decoder on the computer. Run install files found on install CD.

3.4 Software Installation and Set-up

- 3.4.1 Software installation
- Run "Start" "All programs" "LC Net Plus V6.1" "LC Net Plus"; or double-click "LC Net Plus" shortcut icon on the desktop.

Figure1 Software language

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

The software setting is "Define LED screen" is one of the first steps in setting up your software.

Set-up Steps:





Figure2 Go to "Define LED screen"

2) In the LED screen list dialog box (Figure 3), click "New" to establish or click "Edit" to change the screen parameters.

Model	Name	ID	Color	Gray	Width	Height	COMM Type	COMM Parameter
C-Power5200	C-Power5200[1]	1	Full color	256	256	256	Network	192.168.1.225:5200 [255.255.255.2
C-Power4200	C-Power4200[2]	2	RGB color	2	256	256	Network	192.168.1.225:5200 [255.255.255.2
C-Power3200	C-Power3200[3]	3	RG color	2	256	128	Network	192.168.1.225:5200 [255.255.255.2
C-Power2200	C-Power2200[4]	4	RG color	2	256	64	Network	192.168.1.225:5200 [255.255.255.2
C-Power 1200	C-Power 1200[5]	5	RG color	2	256	32	Network	192.168.1.225 : 5200 [255.255.255.2

Figure3 LED screen list

3) If the controller is connected to the computer (COM port or network port), click "Find screen" (or click "Tools"- "Find device" on the menu), the "search device" dialog box will pop up, to search the devices connected the computer.

earch COM Port Search Network Select com	munication mode
IP Controller Information	<u>S</u> tart search
192.168.1.225 C-Power5200/4200! (LD=1)	C-Perman Service
List of devices	ID Code 255.255.255
List of devices	
	Fort 5200
	192. 168. 1. xxx 💌
	From 222
	To 254
	Reals when found
	V Break when found
	Set the search range

Figure4 Search device

4) After clicking the "New" or "Edit" button, enter the password in the authority confirmation box, and the "Screen editor" a box will pop up, as shown in Figure 5 and Figure 6.

5) In the "Screen editor" dialog box define LED screen according to the hardware setting condition of the screen controller.

A. <u>Model</u>: select the correct controller type on the left side of the dialog box. LC Net Plus 6.1

B. <u>Name:</u> the user can choose a name for LED screen. The name will appear at the edit field. If no name is entered, the system will automatically display "CT 5200 (*ID*)"

C. <u>ID</u>: it is used to distinguish between 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: e.g. Full color.
- E. Width and Height: actual pixels of the LED screen.
- F. <u>Font library</u>: click **f** button to set the font library type, once the controller is connected, the font libraries will automatically be detected.
- G. Communication type: select COM port mode, network mode, or GPRS/CDMA mode.
- <u>COM port mode</u>: RS232 or RS485 mode

Set the original port of PC COM port¹ communication, and then Baud rate².

C-Power5200 C-Power4200	ID 1 Vame	
C-Power3200 C-Power2200 C-Power1200	Width 256	
	Color Full color Font GB2312	f
	Image: Comparison of the second s	vork

Figure5 "Screen editor" dialog box under COM port mode

• Network mode

Additional setting items³ after connecting the network port with the control panel.

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

<u>Local area network</u>: Once connected to a local area network (default gateway 192.168.1.1) user can directly change the IP address by using Tools – shown below).

The Password for changing the configuration is: 26888.

¹ The port number of the 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.

 $[\]frac{2}{2}$ The baud rate of the control card can be changed by LEDTool, see engineer's manual.

³ The network parameters of the control card "IP address, ID code, Port" can be changed using Tools.

LC Net Plus 6.1

S LC Net Plus 6.0			11-		
File Edit Play Setting Too	ols Help				
LED Screen C-Power5200 Program[1] Window[1] [Time counter][k [Time rature] Window[2] Window[2]	Mspaint Notepad Calculator CT5200/CT42 CT3200/CT22 CT1200 Find device	00	Copy from .	Window Num	2
iz snppng aper sank	58.000		epeat lay time 300 s III	Play in this Sunday Monday Uuesday Wednesday Thursday	period C ay E
		C-Power52	00[1] C-Powe	er5200 Full color	224 32

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

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

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

c. Port: network port (5200)

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

<u>Internet</u>: input network port of the control panel. Also, identify the network port to computer and control panel through the gateway setting port in the computer control panel.

Model					
C-Power5200 C-Power4200 C-Power3200 C-Power2200 C-Power1200	ID 2 Width 224	•	Name Height Font	32 •	-
	Special None				•
	Communication				_
	Туре	GPRS (device on boa	erd)		•
	IP Address	192 . 168 . 1	. 223		
	Port	5200			
	Device ID	-			
	User				
	Password				
ALL REAL PROPERTY AND INC.					

Figure6 "Screen editor" dialog box under network mode

• GPRS mode

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

6) After the LED screen definition is complete, **LC Net Plus** is ready to set up a message for each screen, and the mapping between panel and software is complete.

After the LED screen definition is complete, backup the file "screen.cfg" which is

automatically created under the installation directory of LC Net Plus. If software or a new LC Net Plus 6.1

computer is installed, the backup can be used to restore the "Define LED screen" settings.

4 Program Editing

4.1 Software overview

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

Preview Window	
Console	Image Image </td

Figure7 Software interface

4.1.1 Preview window

Preview window is an important part of LC Net Plus software. It simulates the same display effect as the actual LED screen and will provide a "what you see is what you get" program editing 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 using the preview window. Please refer to section 4.3.2.
- Play item preview: user can preview the actual play effect through preview window as
- each play item is edited.

For additional settings of preview window, please refer to section 5.1. LC Net Plus 6.1

4.1.2 Console

Console is an operating platform for program editing, setting and sending messages. 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 functions of the tool bar, please refer to section 6.1.

	LC Net Plus 6.0		
Main Menu 🖛	File Edit Play Setting Tools Help		
Tool Bar ←		0 0 0 🚎 🛜	

Figure8 Main menu and tool bar

• Program edit zone consists of "Message" and "Attribute box". After message item is selected, the attribute box shows the attribute item choices.





4.2 Message

When the LED screen definition in section 3.4.2 is complete, **LC Net Plus** can then create a **message** for each LED screen. The message zone which is located at the left side of the program edit zone in Figure9 shows the list if complete messages ready to be displayed.

• Each **message** consists of one or more **program(s)**.

• The various **messages** display screens are as shown in Figure 10.

• The messages for each LED screen will be stored automatically. In addition, with "Import" and "Export" functions, you can backup and recover the current message. For advanced operations of the message commands, please refer to section 5.2.

Playbill	LC Net Plus 6.0 File Edit Play Setting Tools Help ED Screan C-Power5200[1] Program Window(1) Window(1) [Text]NOW OPEN	Image Image </th
=		C-Power5200[1] C-Power5200 Full color 128 64

Figure10 Switching message display screens

4.3 Program

Program is the display content of the LED screen. It consists of the **window** layout, various **play items** and more.

• Each **message** consists of one or more **program**(s). If permitted by the program data size, the CT control system can store up to 512 **programs**. The window layout and content of each **program** in each message may be different.

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

- 1. Program
- The CT series control card can store up to 512 different programs.
- In message, the **programs** are played from the top to bottom.
- User can set the play schedule and play time of the program.

For additional program management information, please refer to section 4.3.1.

- 2. Window
- Each **program** can be divided into 10 **windows**.
- The contents of each **window**, in each program, are absolutely independent and played simultaneously.

• The position and size of the window can be adjusted, and sometimes overlapped. When more windows are overlapped, the content of the smaller window **number** will be covered by the bigger one.

For additional details about the window command, please refer to section 4.3.2.

- 3. Play Item
- User can set several **play items** within one **window**.
- The **play items** in 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 additional details about the **play item** command, please refer to section 4.3.3.



Figure11 Levels of message

4.3.1 Management of program

1. Program management

Method 1: select a program from the message (at the left side of the console); click "Add",

"Delete", "Move up", "Move down" under the "Edit" on the Toolbar.

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

Method 3 (recommended): right click a **program** in the message (located at the left side of the console); select the shortcut from the pull down menu, as shown in Figure 12.

LC Net Plus 6.0	
File Edit Play Setting Tools Help	
	☞ 🗙 💿 🔘 🚺 💭 🛜
LED Screen C-Power5200[1]	Copy from Window Num 1 Cayout
Add window	Name
Add play items	Image 💕 🛃 🗙
Select Shortcut	Mode Center
	C-Dower5200[1] C.Dower5200 Full color 128 64

Figure12 Shortcut management of program

2. Program setting

In Figure 13, when one **program** is selected in the message 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 layout in the current program to display; the background picture cannot be completely covered by the program windows

C. Program play control: when displaying more than one program, they are played according to program number from the top to the bottom. The 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.

D. Schedule time(s) for message to play: You can choose to have messages run for specific time periods.

E. To set time selection:

• When start time entered equals to end time the program is played all the day: for example, the start time is "00:00" and the end time "00:00".

• When the 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".

• When the 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".

Ē Note: if all programs are set to "play restricted by time period" and no content is appointed in some period, the LED display screen will be blank/black.

F. Initial setting of window

Copy: click "Copy" to access the "Copy program window". User can select and copy the existed program, as shown in Figure 14.

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.

Ē For details about window management and settings, please refer to section 4.3.2.



Figure13 Program attributes





4.3.2 Manage **window**- placing multiple messages in segments on one window. In each **program**, the program display screen can be divided into as many as 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 Figure 14.

Method 2: select a window item from the message (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 message (at the left side of the console); select right shortcut in the pull down menu, as shown in Figure 15.

When using the overlap feature in the program, the position of each **window** can be overlapped. In this case the content of the window with the smaller number will be covered by the bigger one.

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	File Edit Play Setting Tools Help		
	🖸 🕹 🕹 🔍 📿 🔾	ia 🗙 🗿 🔘 💽 🖸 📟 📚	
	LED Screen C-Power5200[1]	Name	
	⊡ ITime counter]{!d}days	Waiting Loop No border	
	[Temperature] [Temperature]	Position and size	Window's
	Add window	Left 0 Width 128	flashing
Right-cl	ck Add play item	Top 0 Height 32	surround
the mou	se Add play items	(Attention: Value of left & width should be multiple of 8)	setting
	Move up		
	viove up		
		< III +	
		C-Power5200[1] C-Power5200 Full color 224 32	

Figure15 Window management

2. Setting of window

When the **window** is selected, the attribute box at the left side will show its attribute, see Figure 15. The following items can be set:

A. <u>Name</u>: self-define the name of the **window**.

B. Flashing surround: click the flashing surround setting (see Figure 15), the "Border

selector" pops up, as Figure16 shown. Select the surround type. Every window can set the flashing surround to highlight the window's content.

order type	Border C	
No border Border A Border B Border C Border D	Direction Clockwise C Antidockwise Speed Fast C Normal C Slow	Thursday, 07 July 2011 Preview of the flashing surround
	Color ✓ Red color ✓ Cancel	

Figure16 Flashing surround setting

C. <u>Waiting</u>: if all **program items** in the current **window** have not finished playing, while the **program items** in other **window** have not yet finished playing, the user can change the waiting time of the current **window**.

D. Position and size: input the position and size of the window.

Multiple messages in one window: when a "**Program**" or "**Window**" is selected in the message, the mapping position of each **windows** in the current **program** will appear in the preview window. The frame of current **window** is bright yellow while the others are green, as shown in Figure 17. The position and size of each **window** can be adjusted by dragging the mouse in the black block on the frame



Figure17 Editing size and position of the 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 message at the left side of the console; click "Add",

"Delete", "Move up" or "Move down" using "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 <u>the message</u> (at the left side of the console); select a shortcut from the pull down menu, as shown in Figure 18.

S LC Net Plus 6.0	
File Edit Play Setting Tools Help	
	😝 🗙 🔘 🔘 🚺 🚎 🛜
LED Screen C-Power5200[1]	A 🖸 🖬 🌄
∞ Program[1]	?
Right click Add play item	Speed 100 Stay 2 s Show Random
Text ^D [Text]N Add play items	nage mode 🔻 🖉 🖶 Arial 👻 12 👻 🖬 🕅
Delete	OPEN NOW
Move down	
	Set row spacing 16 V-Offset 0
	Compress image data
	C Down-5200(1) C Down-5200 Full colors 120 C4
	C-Power5200[1] C-Power5200 Full color 128 64

LC Net Plus 6.1

Figure18 Management of play item

Click "Add play items", add more than one document, as shown in Figure 19.

Computer + OS	(C:) • Program	n Files (x86) 🕨	Search Pro	igram Files (x.	. P
Organize • New folder			51	•	0
Katop Desktop		Name	Date modified	Type	^
bownloads		L Google	9/5/2012 11:26 AM	File folder	
Roto Stream	=	Hewlett-Packard	11/18/2012 9:24 PM	File folder	1
🐉 Recent Places		🗼 Нр	4/24/2012 4:13 PM	File folder	11
		1 HP Games	1/31/2012 2:07 PM	File folder	
Libraries		👢 Intel	1/31/2012 2:13 PM	File folder	
Documents		1 Internet Explorer	12/13/2012 3:19 A	File folder	
🔳 Music		1. Intuit	4/13/2012 6:50 PM	File folder	
S. Pictures		ITunes	12/17/2012 9:25 A	File folder	
Judeos		K-NFB Reading Technology Inc	1/31/2012 2:08 PM	File folder	
		LC Net Plus 6.0	1/2/2013 2:23 PM	File folder	
Somputer					P.
File name:			 All supported f 	iles	-

Figure19 Add play items

2. Editing of play item

The content of each **play item** can be selected by clicking the "Play item type" button as shown in Figure 20. The types are listed below:

• <u>**Text type</u>**: In text mode the fonts available are limited; however using IMAGE mode allows access to the complete font library on the users computer.d</u>

- Clock type: simulative clock, digital clock, etc.
- **Environmental data type**: temperature (Celsius or Fahrenheit) or humidity.
- **External document type**: video, animation, graphic document, text document, etc.

The following sections provide information about each type of editing of the **play item.** 4.3.3.1 Text type (More than 60 effects, transparent overlap or hollow-out effect)

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

There are two modes of text type: "image mode" and "text mode".

There are more than 60 effects in the text program, including: snow fall, mosaic, slide zebra, fan open, etc. User can click the preview window to preview and select effects, as Figure22 shown.

1. Image mode

As shown in Figure 20, computer fonts are converted in the content / edit zone to picture format. LC Net Plus supports text program of any languages, fonts and sizes.

• <u>Text input</u>: Input the text content in the input field. Or paste the text content with office LC Net Plus 6.1

file 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.

• <u>Text setting</u>: Every character can be set or modified one by one. The fonts, size, text color, background color, bold (**B**), italic (*I*) and underline (**U**), etc.

• <u>Effect setting</u>: To set the effect of each message; "speed" and "stay" time, 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.

• <u>Typesetting</u>: Click the typesetting buttons on the left side of the text input field, to set the text align left **E**, center **E**, or right **E**.

• <u>Set row spacing</u>: To set row spacing, and Y-offset, it can adjust the text height and exact position, even by screen pixel.

• <u>Compress image data</u>: When this option is selected, the text program data in **Image mode** will be compressed to reduce the time for transmission and save the memory space on the controller.

• <u>Transparent or hollow-out</u>: Text program can set to be transparent or hollowed-out, and overlay on a picture, animation or video program, as shown in Figure23 and Figure24.



Figure20 Text program (image mode) edit interface

2. Text mode

As shown in Figure 21, display the font library available on the main control card.

• <u>Text input</u>: Input the text content in the input field. Click *input* and *input* buttons above the text input field to open TXT or RTF files or save the text in the input field

• <u>Text setting</u>: Every character can be set or modified individually. The size, text color, LC Net Plus 6.1

and reverse color (

• <u>Effect select</u>: The message "speed" and "stay" time can be set by using the effect pull-down menu. From here the user can click the preview icon to 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.

- <u>Typesetting</u>: Click the typesetting buttons on the left side of the text input field, to set the text align left **(center)**, or right **(**, or down **(**), or down **(**).
- <u>Set row spacing</u>: Select "line spacing", to set the distance between two lines
- <u>Transparent or hollow-out</u>: Text program can be set to transparent or hollow-out, and overlay a picture, animation or video program, 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 be set to overlay a picture, animation or video program's window, as Figure23 or Figure24 shown. Use the following settings:

- 1) The window of text which you want to overlapped other window.
- 2) The text window's number is bigger.
- 3) Select "Transparent" option.

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LED Screen C-Power5200[1]	
Program[1] C Window[1] C Window[1] C Time counter][td]days [Text]NOW OPEN	Speed 100 🔦 Stay 3 🚖 s Show Random 🔻
IText]NOW OPEN Window[2]	Image mode V 🚰 🖬 Arial V 12 V 11 🖪 🛚 🕅
[Text]NOW OPEN	
Preview	■ ■
Transparent	Compress image data
overlap effect	
	C-Power5200[1] C-Power5200 Full color 128 64
	3
Preview	2 5
	1. The window of text overlap on other windo
1	2 The text window number is bigger
(21) 128×64	2. Soloot "Transporent"
	5. Select Hansparent
	4. Transparent color is same as background color

Figure23 Text transparent overlap setting



Figure24 Text transparent hollow-out setting

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

In the message at the left side of the program edit zone, select the play item to be edited. If

the "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. <u>Caption</u>: add a message before clock, also choose size and color. The program is displayed instantly.

B. <u>Clock option</u>: select clock display items, display on line or not; selection of data and clock format: several formats are available.

C. Show hands and marks: There are two options for displaying the analogue clock.

D. <u>Time zone</u>: select the time zone, the clock program will display the local time¹ of the selected time zone.

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🖸 🚣 🚖 🔍 🕑	ia X 🔘 🔘 💟 💭 🚎 📀	
LED Screen C-Power5200[1]		
Program[1]		Time zone:
	Caption +00:00	set to display
□ [Text]NOW OPEN □	✓ 24-Hour ✓ Multi-line	world time.
Text]NOW OPEN		
	Vear Month V Day Vay of week	
	Hour Minute Second	
	Show hands Show marks	
	Format Friday.January 04,2013 18:37 ▼ Stay 3 ★ s 2013-01- 4 Fri, 18:37 Fri,Jon 04,2013 18:37 Fri,J(V4/2013 18:37 Fri-04/04/2013 18:37 Friday.04 January 2013 18:37 Friday.04 January 2013 18:37	Multiple clock
	2013/01/04,Fri. 18:37	Tormats
	C-Power5200 rull color 128 64	

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 adjust the time, please see the section 4.4.2

• Clock transparent display: as shown in Figure 26. User needs to follow these 3 steps to achieve the transparent display effect.

1. The clock window must be overlapped in front of the window to be used for background.

- 2. The window number of clock should be bigger than the one to be covered.
- 3. Select "Transparent".

¹ The software will automatically select the time zone used in the programming PC. LC Net Plus 6.1

Preview (zoom:100%) Vet Plu	s60
Jul 08/2011.	
12:138:04 Pit regram 5 Wind 9	C-Power5200[1] Image: Content of the second of the sec
(2) 112x112	Format Friday,January 04,2013 18:37 V Stay 3 s Font Font V 16 V Transparent
(1) 256x256	C-Power5200[1] C-Power5200 Full color 128 64
	1 3
2	 The clock window can overlap another window The clock window number is bigger e.g. 1. Clock is "2" Select "Transparent"

Figure26 To set up transparent clock display

2. Time counter

A. <u>Content</u>: Select the contents to be displayed, by clicking the variable tag text listed below the content input field. The controller will calculate the exact time, variable and value to be display. For example, click {!d}Days, the controller will calculate and display the exact number of days between the current time and the **Base date** and **Base time**, as shown in Figure27 and Figure28.

B. Type: Count up or counter down.

C. <u>Base date and Base time</u>: When "count up" has been chosen, the base date and time should be earlier than the current time; when "count down" has been chosen, the base date and time should be later than the current time.

D. <u>Transparent</u>: The same as the clock program, the counter can be set to transparent and overlap on other window. Refer to Figure 26.

E. Font setting: Font size and color can be chosen.



Figure27 Count down setting

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LED Screen C-Power5200[1]		1 🎿	Time counter
Program[1]			Time councer
Window[1]	Content	{!d}days	
I lime counter]{!d}days Time counter]{!d}days			
Text]NOW OPEN			
Window[2]	Click to	{!d}: Days	{!h+}: All hours
	enter tag text	{!h}: Hour	{!h2}: Hour (2 numbers)
		{!m}: Minute	{!m2}: Minute (2 numbers)
Preview		(is). Second	(isz). Second (z numbers)
	Туре	Count up	Transparent
From this year	Base date	1/ 1/2013	Base time 00:00:00
188days	Font	Font	•
13b 5m 97a	Stav	1 🛋 s	
1011 010 218		•	
		0.0	

Figure28 Count up setting

3. Count Down Process

- A. Content: Calculate automatically. Set the count type "Count hours" or "Count days".
- B. <u>Base date and start time</u>: 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.



Figure29 Work counter setting

4.3.3.3 Environment data type¹ (temperature program, humidity program) In the message 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 environment data type. Please see Figure 30.

A. <u>Caption</u>: User can add a message before temperature information, and set the stay time and color of the characters. This type of programming is displayed instantly.

B. <u>Temperature program</u>: The controller must be connected to an external temperature sensor. Select "Temperature", choose the unit type: "Celsius" or "Fahrenheit".

• Temperature adjustment: Depending on the placement of the probe on the display, the actual temperature and the temperature display maybe different. Use the temperature adjusted function to modify the value, please see section 4.4.2.

C. <u>Humidity program</u>: The controller must be connected to an external humidity sensor.

¹ For this type of program, sensors (temperature sensor, humidity sensor and etc.) must be connected externally. LC Net Plus 6.1

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File Edit Play Setting Tools Help	
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LED Screen C-Power5200[1]	A O Delete item
Window[1] Window[1] Temperature] Window[2] Window[2]	Caption Stay 3 s Font Font 15 Temp, Humidity selection Gelsius Fahrenhet Transparent Temperature units
Delete selected item	C-Power5200[1] C-Power5200 Full color 128 64



Temperature program and preview

A 🖸 🚺 🌫		
Caption	Stay 3 🚔 s	
Font Font 16		HUM:90%RH
Temperature	C Humidity	Humidity program and preview
Celsius	Fahrenheit	

Figure30 Temperature, humidity program edit

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

video)

In the message 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 Figure 31.

CT 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, etc. User can click the preview window to preview and select effects, as Figure22 shown.

¹ Only CT5200 supports video program.

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Figure31 Open file window

1. Text file and Office document

When using a 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 Figure 32.

• <u>Effect selection</u>: Message motion "speed" and "stay" time can be chosen. Click the effect pull-down menu to select or click the preview icon to preview and select the text effect, as Figure22 shown. When selecting "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 a video file (*.avi) is selected, video image processing "Mode",

"Repeat" times can be set.

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LED Screen C-Power5200[1]		
CP Program[1] Construction (1) Constru	File Time Data)Lagon(1:Lago en Show Random • Speed 100 •	Mode Stretch Stay 3 2 s
	Color inverse	Compress image datz
Insert item with dialog	C-Power5200[1]	C-Power5200 Full color 128 64

Figure33 Effect setting of video file

3. Animation file

As shown in Figure 34, if a flash (*.swf) or GIF animation file is selected, animation may be played. 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).

LC Net Plus 6.0		
C Net Plus 6.0 File Edit Play Setting Tools Help Play Setting Tools Help LED Screen C-Power5200(1) Program(1) File Time counter(l0()days File Temperature) File Temperature)	Add Item	Mode Stretch V Stay V S S Compress insige date Transparent color
Insert item with dialog	C-Power5200[1]	C-Power5200 Full color 128 64

Figure34 Effect setting of animation file

4. Picture file

As shown in Figure 35, if JPG, BMP, PNG, TIF files are selected or GIF files are displayed as static pictures (that is: viewed as a still image).

• <u>Effect</u>: 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 selecting the "random" (the preview icon is "?", the controller will play the text program in random effects.

• <u>Compress image data</u>: Reduces data size and time of transmission; the picture quality may be slightly reduced.

• <u>Transparent</u>: Transparent display refers to when one or more window overlaps. 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 each is complete, it can be viewed 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 **b**utton in the tool bar, stop preview.

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

After the program edit and preview confirmation are complet, send the message 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" pops up. The choices are:

- <u>Send to current</u>: send program data to the current panel.
- <u>Send the selected</u>: send the program data of the selected panel at the left side "LED screen list".
- <u>Send One to Multi</u>: send the current program data to more than one screen.
- <u>Send to USB disk¹</u>: send the current panel's program data to the USB flash disk; transfer the data via USB disk.
- <u>Format screen</u>: if an error occurs, it can't be saved, refresh the card's program data, format the screen and resend the data.
- Show data screen: read the cards and show the program files in screen.

2) When the computer is connected to the controller, 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.

¹ Applies only for a controller connect by USB.

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Send data to LE	D screen						×	
Screen	Se	elect all Unselect all	Selected so	reen	0	C	Send to current	
	-		Current se	Current screen			Send to selected	
			Name C-Power5200[1]				Send One to Multi	
				Items 1			Send to USB Disk	
			Data si	ze 493	97 bytes		Close	
			[RS23	2] COM1: 11520	0,N,8,1		Format screen	
Detail of current				Detail of screer	n		Show data of screen	
Filename	Size	Modified		Filename	Size	Modified		
playbill.lpp	32	13.01.18 11:5						
00010000.lpb	49365	13.01.18 11:5						
				-				
Total: 49397 t	oytes, 2 fi	iles.						

Figure36 Dialog box of sending data

Figure37 Data sending completed

3) When transferring program data via USB flash disk (the controller should be a 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, then click send button. The files include control files and program data files, as **Error! Reference source not found.**

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

Screen C-Power5200[1] C-Power5200[2] C-Power3200[3] C-Power2200[4]	Select all Unselect all	Selected screen 0 Current screen Name C-Power5200[1]	Send to current Send to selected Send One to Multi
C-Power 1200[5] Detail of current Filename playbill.lpp 00010001.lpb Total: 547346	Send to USB Disk USB Disk M:	Send Cancel	nd to USB Disk Close ormat screen w data of screen

Figure38 Sending program data to USB flash disk

4.4 Play management

4.4.1 Playing schedule

The programs can be set to play at the specified date and specified days of week. Steps:

1) Click "Edit" - "playing schedule" in menu, as shown in Figure 40.

- When there are no other messages scheduled to play, or the scheduled messages do not cover the entire time period, to avoid a black screen, the "Undefined time play all programs" selection needs to be the selected default.
- The controller will play the selected programs as scheduled.



Figure39 Message playing schedule

✓ Undefined time play all programs: Add Edit Delete OK Cancel						
G.,	Week	Date	Time	Program		
0	+_12345_	2011.01.01-2011.12.31	00:00:00-00:00:00	1, 2		
0	+6	2011.01.01-2011.12.31	00:00:00-00:00:00	3		
1	^0	2011.06.01-2011.06.30	00:00:00-00:00:00	1, 2, 3		

Figure40 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 Figure41 shown.

• <u>Item grade</u>: Every schedule item has a grade, when two or more schedule items conflict; the item which has higher grade will be executed first.

• <u>Relationship of date and day of week</u>: The playing schedule can be set according to the date or the day of week, or their association:

AND: Playing at the special date AND the special day of week, when both the 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.

• <u>Time</u>:

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 \sim 23:59" and "0:00 \sim 8:00".

3) The playing schedule will be sent to the controller with the program data sending (sector 4.3.5).

	Playing schedule item	×
Grade Relationship of date and day of week	Item grade 0 Day of week requirement Date and week days Relation of D & W Sunday Sunday Week days Oate requirement U Sunday Week days To 2011 To 201 To 2011 To 201 To 2	Select program(s) to be play Program[1] Program[2] Program[3] Programs in the playbill to be selection
Time requirement	Time From 0 • : 0 • To 0 • : 0 • Selected program number(s) 1, 2 Selected programs list	
	OK Cancel]

Figure41 Edit a playing schedule

4.4.2 Setting and inquiry for 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.

2) Select the screen (from the 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 Figure42 shown.

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

Click date and time "Read from screen" button, read back controller's current real time.

(Time & Temperature		×
Adjust and set the controller's time	Date and Time	Screen Screen name C-Power5200[1] C-Power5200[2] C-Power1200[3] C-Power1200[4] C-Power1200[5] C1	Select all Unselect all Copy Information 2011-07-08 16:13:46 ead back the controller's irrent time
	Adjust +0 Celsius		Close

Figure42 Time setting

4) <u>Temperature adjusted and read</u>: the controller will detect and display the environmental temperature when a temperature sensor is installed. The actual temperature may be different than what is displayed in the temperature program due to the placement of the sensor on the display. To adjust, use the temperature function to modify the value. Click temperature's read from screen button to read the temperature value which detected by temperature sensor.

	Time & Temperature		×
Modify the display temperature value	Time & Temperature Date and Time Image: Computer time <th>Screen Screen name C-Power 5200[1] C-Power 5200[2] C-Power 3200[3] C-Power 2200[4] C-Power 1200[5]</th> <th>Select all Unselect all Copy Information 29.9C (85.8F) [+0C] Read back the temperature value detected by sensor</th>	Screen Screen name C-Power 5200[1] C-Power 5200[2] C-Power 3200[3] C-Power 2200[4] C-Power 1200[5]	Select all Unselect all Copy Information 29.9C (85.8F) [+0C] Read back the temperature value detected by sensor
	Set adjust to screen Read from screen Read version		Close

Figure43 Adjust and read temperature

5) <u>To verify controller version</u>: Click "Read version" button to view the controller information.

	Screen	Select all Unselect all Copy
Date and Time	Screen name	Information
	C-Power5200[1]	6.8-6.0-2.2
J♥ Current computer une	C-Power5200[2]	
2011/ 7/ 8 16:24:01	C-Power3200[3] C-Power2200[4]	
,	C-Power 1200[5]	Read back the version
Set to screen		information from the
Read from screen		controller
Temperature		
Adjust +0 💽 Celsius 💌		
Set <u>a</u> djust to screen		
Read from screen		
	1	

Figure44 Inquiry controller's version information

4.4.3 Setting and Adjusting 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 ask manager" pops up, as shown in **Error! Reference source not found.**

2) <u>Power on/Power off</u>: 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) <u>Brightness</u>: (Requires brightness Sensor)

• Drag the rulers, set 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 from "0" to "31": 32 is a fixed brightness setting.

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 detected by the sensor.

- 4) After setting is complete, 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.



Figure45 Automatic setting modes

5 Other functions

5.1 Software option (preview window location, default setting)

Select "Setting" – "Option", the user can set the preview display window parameters as shown in Figure 46.



Figure46 Go to "Option" dialog box

"View" page Main window view:

"Minimize window to system tray bar": when this setting is selected, the software window

is minimized to system tray bar by clicking



Figure47 Minimize window to system tray bar

Preview window view: Click **V**to display.

	System Custom			
Ma	in window			
	Minimize window to	o system tray bar		
- Over	a des su su des riches a			
Pro	New wholew	Aller ter		
	Default zoom	Align top	-	
		10070		
	Preview window ab	ways on top		
	Hide preview windo	ow when application star	tup	

Figure48 Option dialog box



Tip: right click the preview window to see the display size (100%, 200%, 300%,

400%). The preview window can be zoomed in or out.



Figure49 Preview window setting (right click)

- 1. "System" page: to set the shut down time of Windows system.
- 2. "Custom" page: to set the default text program type, clock program format etc.

ption		and the second se		X
View System Custor	n			
Default text editor	Image mode	Default text size		•
Default transition	Random	•		
Default clock format	Fri,Jan 18,2013 13:10	•		
Extend ASCII name				
One button se	nd data to screen ogram files to one file when se	nd data		
		If checked, data to LED computer wi	"Send program screen" dialog Il "send to the	n data" button, the "Ser g box will not pop up, th current" screen directly
		ОК	Cancel	

Figure50

5.2 Message Import and Export

After LED screen definition is completed (see section 3.4.2), **LC Net Plus** will set up program data for each screen and save them automatically.

5.2.1 Build new message

Target: Clear the old message 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 to current screen (*.lpl).

Follow these steps:

1) Click "File" – "Export" in menu bar, or click 📫 in tool bar.

2) Select export position in the dialog box "Export to message" (as shown in Figure 51) and enter the export file name. Click "Save". The message file of current panel will be stored to the file.

Figure51 Importing message

5.2.3 Import program data

Target: import the program data once all edits are complete.

Follow these steps:

1) Click "File" – "Import" in menu bar, or click 👛 in tool bar.

2) In the dialog box "Import message" (as shown in Figure 52), 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 Figure 52, a dialog box "Import to multiple screens" as shown in Figure 53 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.

Look jn: ն	work	-	← 🔁	💣 🎟 -	
		_			Information
a/sd					demo.lpl
tmofile					Target screen:
					Type C-Power500
twsd					Type
demo.lpl					Color Full color
					Width 256
					256
File name:	demo Ini			Open	
nio <u>n</u> ame.	Tremoripi			open	۱ ۲ <u> </u>
Files of type:	LedCenter playbill (*.lpl)		-	Cancel	To multiple scree

Figure52 Import message

mport E:\TEST_STUDIO\Le	edCenterMv351\work\demo.lpl		
o screen(s):	Select all Unselect all		
C-Power5000[1] C-Power5000[2]		OK Cancel	
C-Power5000[3]			
AniView2000(1)		File information	
	Screens list	Type C-Power5000	
	Screens list	Color Full color	
		width 256 File informa	ition
		Height 256	
		rioigne	
		- Current screen	
		Turon C-Power5000	
		Color Full color	
		width 256	
		Height 256 Information	n

Figure53 Import to multiple screens

6 Appendices

6.1 Button function of tool bar

Function	Corresponding position in main menu
Create new message	"File" – "New"
"Import" message	"File" – "Import"
"Export" message	"File" – "Export"
Display/close the program preview	"Setting" – "Show preview
window	window''
Display/close program edit zone	"Setting" – "Show editor"
Add one message item	"Edit" – "Add"
Add items	"Edit"- "Add items"
Delete one message item	"Edit" – "Delete"
Move upwards the selected message item	"Edit" – "Move up"
Move downwards the selected message item	"Edit" – "Move down"
Start program preview	"Play" – "Preview"
Stop program previewing	"Play" – "stop"
Send notice	"Play" – "Send notification"
Send program data to panel	"Play" – "Send program data"

Table1 Button list of console tool bar

	Trouble or	Check software	Reason and resolution
	warning		
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 A warning appears under the following conditions: send program data, set the screen clock, set the auto task, etc.	 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. 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 appears.	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 message refers to inexistent external file(s).	When sending program data, software warning appears.	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 appears.	The parameters of the imported program data are inconsistent with the current screen.

6.2 Trouble shooting and warning dealing

Table 2 Quick search for trouble shooting and warning dealing