GICO GC-6600 LED Universal Master Controller User Guide

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User Guide

LED Universal Master Controller
GC-6600

Contents

GC-6600 LED Universal Master Controller

GC-6600 is a general-purpose main controller of the light and shadow series, which can be used offline (insert SD card) or online.

When offline, the system runs the effects stored in the SD card, and runs the effects on the computer side in real time when connected online. GC-6600 can control a maximum of 120 000 pixels offline.
GC-6600 uses FPGA as the core processor and is equipped with Gigabit network transmission interface. With the powerful data computing performance of FPGA, combined with the transmission rate of the gigabit network, it can realize real high load, high frame rate, and high grayscale control.
GC-6600 is suitable for various large-scale LED lighting projects such as landscape lighting, building outlines, and pixel displays. Combine with our company self-developed multifunctional editing software “Shadow Draw” and online player software “LED View” it’s easy achievable to design needed lighting effects.
At present, it has been widely used in LED lighting projects in office buildings, squares, hotels, store signs, commercial real estate, etc.

Features

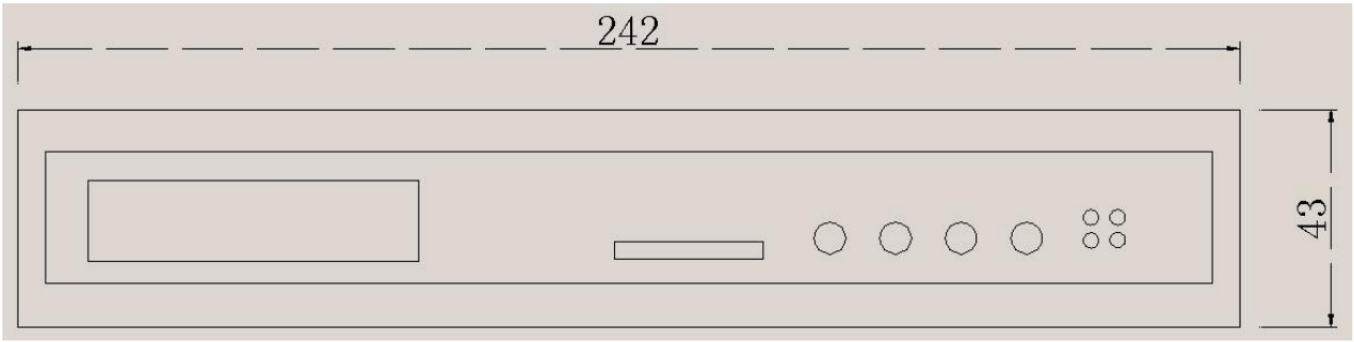
- True gigabit technology, the whole system adopts gigabit network transmission, ultra-high data transmission capacity to achieve high load and output high frame rate at the same time.
- It adopts the international standard TCP/IP network protocol, which has strong compatibility and is perfectly compatible with standard network equipment such as switches and optical fibers.
- FPGA as the core processor, super data computing capability to achieve real high load, high speed, high grayscale control
- Dual gigabit network port output, a single main controller can carry 120,000 pixels off-line.
- A single main controller can control 72 sub-controllers off-line.
- Compatible with standard network equipment such as optical fibers and switches, and supports any wiring structure such as ultra-long-distance transmission and network branches
- A variety of timing play modes and program loop modes, including multi-track loop and single loop, etc.
- Playing speed, display brightness and other parameters can be adjusted in real time by pressing the buttons on the main controller
- Support various lighting driver ICs: DMX512, UCS series, TM series, LX series, GW series, TLS series, MY series, and other types of LED industry driver IC
- Support high-speed DMX512, can expand DMX512 loading points according to the speed
- Support DMX512 on-line write address.
- Support RGBW (four-color) control and a variety of special controls, RGBW can choose energy-saving mode and brightening mode
- Support real high grayscale control, up to 65536 grayscale control, support gamma correction
- The network side does not need to distinguish A/B port, self-adaptive input and output
- Support on-line upgrade, directly update the system program on-line through the network port.

Specifications

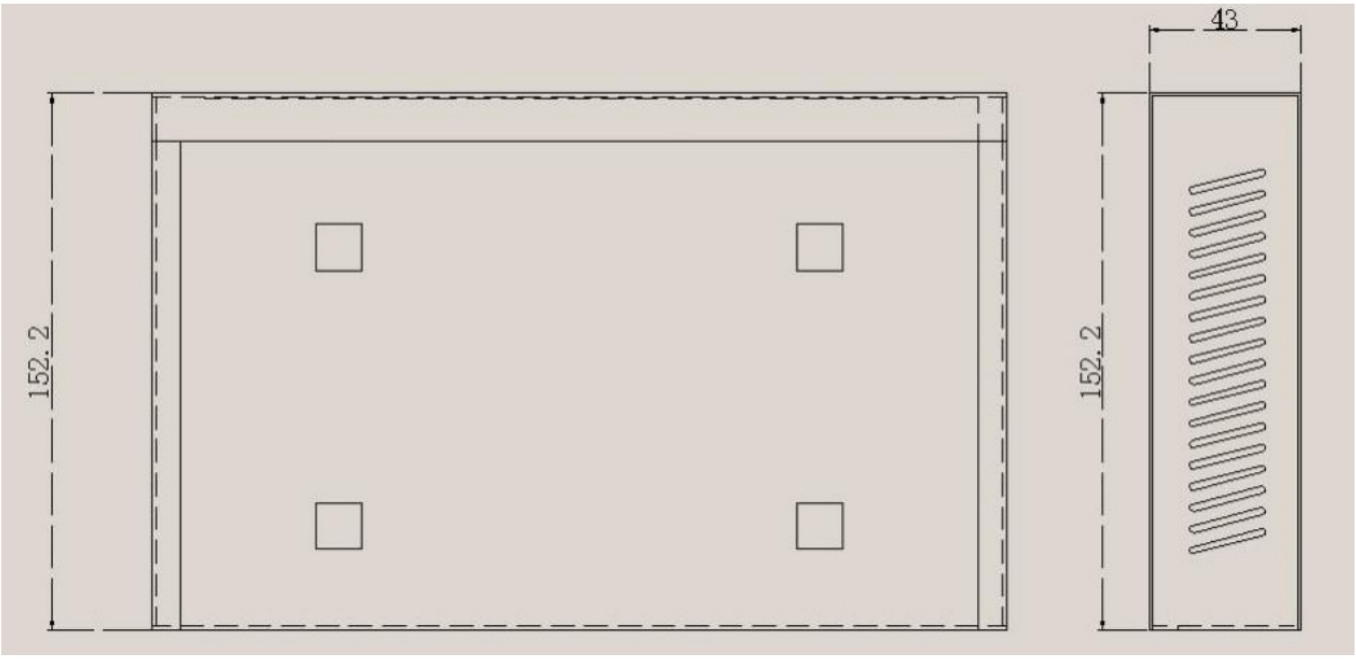
Power input: AC 90~240V
Power consumption: 5W
Network interface: 1Gbps Gigabit network (568B)
Input interface: SD card
Output interface: two gigabit network output network ports
Working temperature: -20℃ 65℃
Product size: L242×W153×H43mm
Weight (gross): 1.2 Kg

Physical dimension

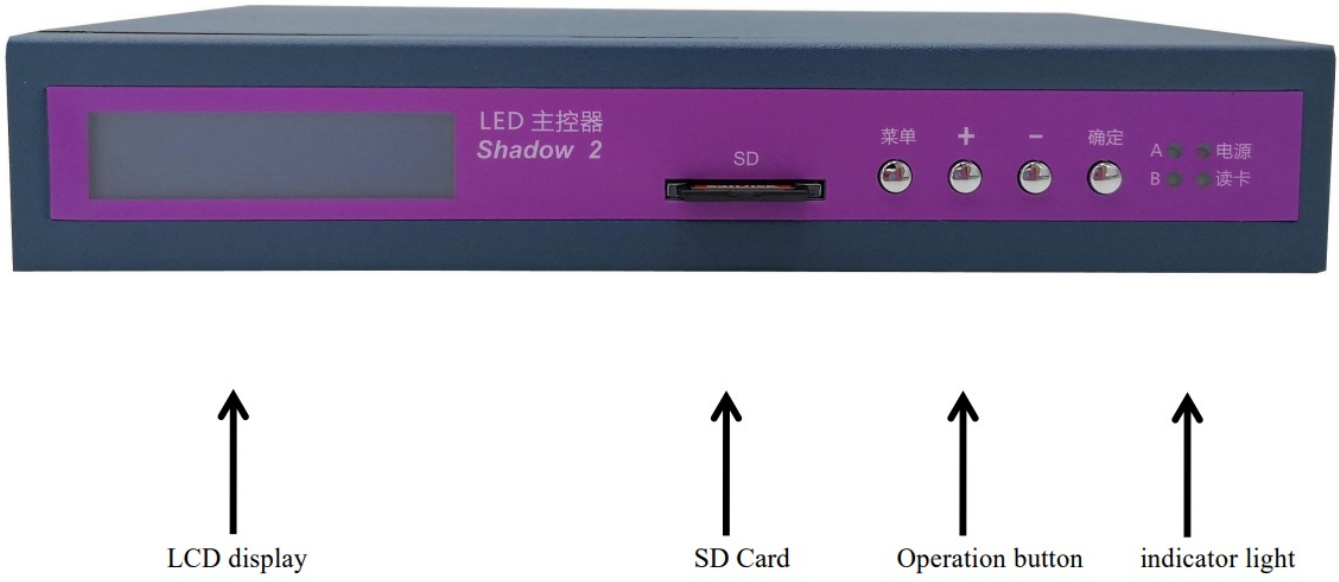
Main controller front view



Top view and side view of the main controller

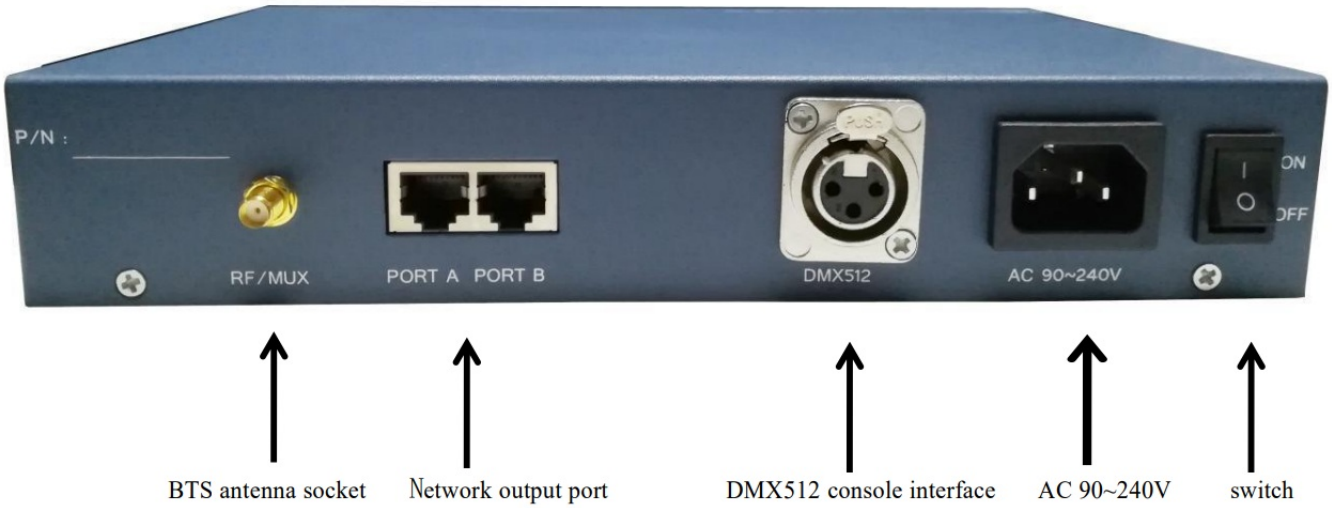


Controller Appearance Interface Description



- **LCD display:** used to set parameters, and display the current time and currently playing scene.

- **SD card:** used to store program scenes, you can choose an SD card with a capacity of 2~32G.
- **Buttons:** The buttons are divided into MENU menu, UP previous item, DOWN next item, SAVE entry/hold.
- **Indicator light:** The red light is the power light, and it will always be on when the power is turned on. Link A and Link B are network indicators, and it will be always on when the network cable is connected. Normal data communication will flash regularly, and the card reading light is the status indicator of the card reading. If the card is read correctly, the card reading light will flash frequently.



Network output port: There are two output ports AB, just choose one.
DMX512 console interface: used for external DMX512 console, can accept console trigger.
AC 90~240V: AC power supply socket.
Switch: main controller working switch.

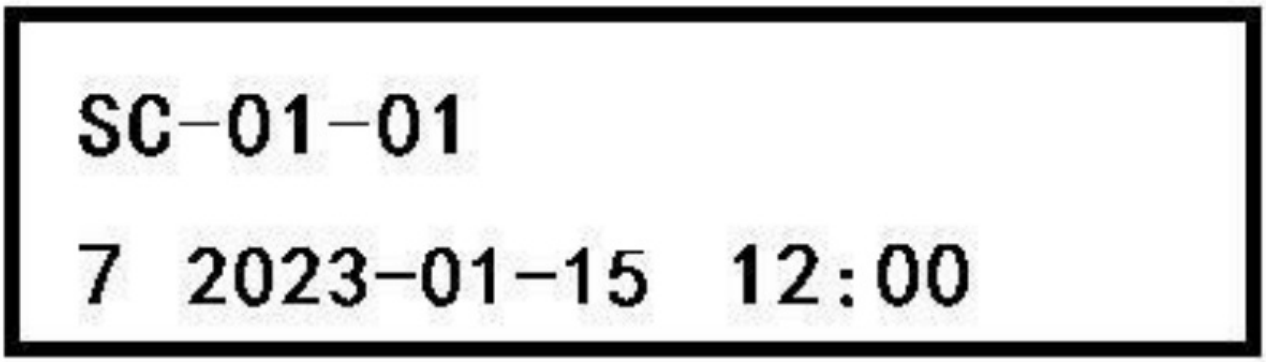
Operation instructions of the key panel of the main controller

As shown in the figure, the main controller operation interface consists of an LCD display and four buttons

- MENU: Enter the menu
- UP, DOWN: page up and down
- SAVE: enter, save

  After starting up, you will first see the initialization interface

After a few seconds, you will enter the main menu interface



As shown in the figure: The first line displays the program number (when the card is not inserted or the card is read incorrectly, the program number will not be displayed)
SC-01-01 represents program 1
SC-02-01 represents program 2
SC-03-01 represents program 3, and so on.
The second line displays the current system time. week year-month-day hour: minute

Key function menu introduction

- The master controller automatically cycles: play mode → multi-file mode, trigger mode → internal control
- The main controller is connected to an external console: play mode→single file mode, trigger mode external DMX

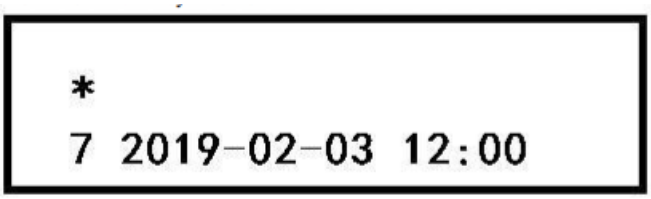
1. Function menu list
   Press the MENU button to enter the menu selection interface
   As shown in the picture: the second line will display the current menu options that need to be set, and you can turn the page by pressing the UP and DOWN buttons, and switch the menu options.
   Setting mode: set the working mode, such as single cycle or multiple cycle
   Set speed: Set playback speed
   Set brightness: Set playback brightness Set write address:
   DMX encoding (DMX address code) Set time: Set system time
   Set scene: select the scene (only valid in the mode of single cycle mode) Test command: enter the test mode
   Control selection: external control mode selection (such as external DMX512 console)
   Press the SAVE key to enter the menu, and press the MENU key to return to the main interface.
2. Set the working mode (Mode)
   First press the MENU button, and you can turn the page through the UP and
   DOWN buttons, and turn to the setting mode options:
   At this time, press the UP and DOWN buttons to switch the desired working mode:
   Multi-file cycle: multi-song cycle (this mode is usually set by default) Week (week)
   mode: week mode 24-hour mode: date mode (select this mode when BTS is applied) Single file loop: single track loop (in this mode, you can manually select a single track, and then single track loop)
   After selecting the desired mode, press the SAVE button, the main controller will save the parameters and return to the previous interface. 3. Set the playback speed (Speed) First press the MENU button, you can turn the page through the UP and DOWN
   buttons, and turn to the setting speed option: Press the SAVE key to enter
   As shown in the picture: the second row of numbers represents the speed, and the speed value can be set from

6 to 100 by pressing the UP and DOWN buttons. After setting, press the SAVE button, and the main controller will save the parameters and return to the previous interface. In the project, the recommended speed value is between 15~30, and the factory default is 20~25HZ

3. Set the playback brightness (Set Bright) First press the MENU button, you can turn the page through the UP and DOWN buttons, and turn to the setting brightness option:

Press the SAVE key to enter
As shown in the picture: the second line represents the brightness level, the highest brightness is 255, and the desired brightness can be selected by pressing the UP and DOWN buttons. After setting, press the SAVE button, the main controller will save the parameters and return to the previous interface. 5. Perform DMX encoding (DMX address code)
First press the MENU button, and you can turn the page through the UP and DOWN buttons, and turn to the setting address option:
Press the SAVE key to enter Here, special instructions are required. After entering, there will be three parameters that need to be set. After setting, the encoding operation will be performed.
Press the SAVE key to enter
The first parameter, select IC, and use the UP and DOWN buttons to turn the page and select, for example, we choose UCS512A. After selection, press the SAVE button, the main controller will save the parameters and return to the previous interface.
Next, press the UP and DOWN buttons to turn to the second parameter: DMX initial address
Press the SAVE key to enter
As shown in the figure, the default starting address is 1 (in most cases, the starting address is 1). Press the SAVE key, the main controller will save the parameters and return to the previous interface.
Next, press the UP and DOWN buttons to turn to the third parameter: DMX step size
Press the SAVE key to enter
Use the UP and DOWN buttons to add and subtract values, for example, we use 3 here. After selection, press the SAVE button, the main controller will save the parameters and return to the previous interface.
After the above three parameters are set, we can go to the next step and execute the encoding action. Press the UP and DOWN keys to turn to execute the write address
Press the SAVE key to enter
At this point, the system is executing the coding action.
The encoding process takes about 5-10 seconds.
Please pay attention to the changes of the lamps at this time. Generally, the lamps will have a uniform color changing process during the encoding process. In order to facilitate the user to watch the changes of the lamps, the main controller will not automatically exit after

Press the SAVE key to enter
At this point, the system is executing the coding action.
The encoding process takes about 5-10 seconds.
Please pay attention to the changes of the lamps at this time. Generally, the lamps will have a uniform color changing process during the encoding process. In order to facilitate the user to watch the changes of the lamps, the main controller will not automatically exit after
Set the time (Time) First press the MENU button, you can turn the page through the UP and DOWN buttons, and turn to the setting time option.
Press the SAVE key to enter
As shown in the figure, the “*” is in the position of “week”, and the week can be set by “UP” and “DOWN”, and the “*” can be moved by pressing the “SAVE” key. “UP” “DOWN” which value to set. After setting, press the “SAVE” button continuously, the “*” will move to the right continuously, when the “*” moves to the far right, press the “SAVE” button again to save and exit.
Select the scene (the setting scene is only effective when the Mode is the single cycle mode) This function is used in the single cycle mode, manually select the program to be played, first press the MENU button, and use the UP and DOWN buttons to turn the page. Go to the setting scene option
Press the SAVE key to enter



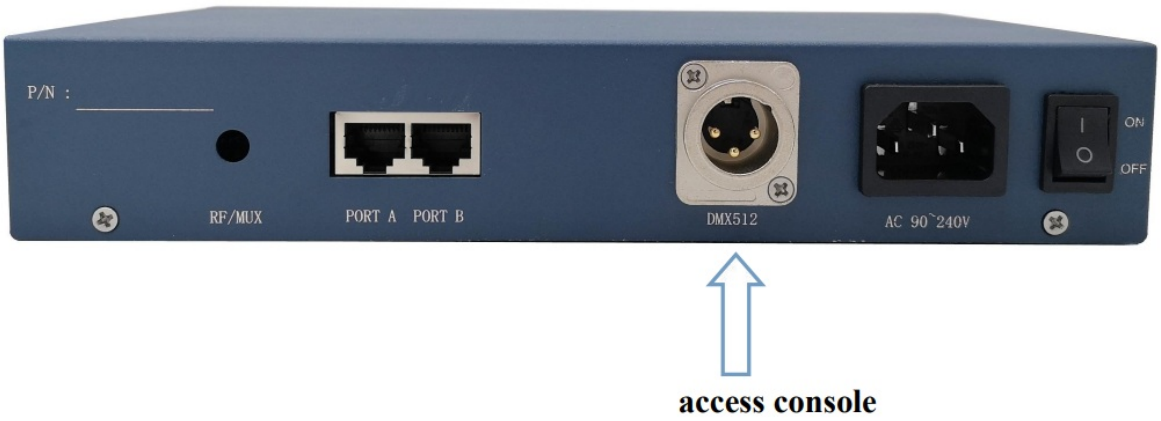
As shown in the figure, it means that the current selection is program 1, and program 2 and program 3 can be selected by pressing the UP and DOWN buttons. After selection, press the SAVE button, and the main controller will save the parameters and return to the previous interface.
Trigger mode (default is internal control)
Press the SAVE key to enter
If the main controller is connected to an external console, then the trigger method must be selected: external DMX, select external DMX
After that, it is followed by setting the DMX512 address code of the main controller.

Test card description

After the program files are completed, COPY all to the SD card. The program file suffix is rgb.
The file name generated by the software cannot be modified.
Before copying the card, the SD card must be formatted first.

Sc-01-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB
Sc-02-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB
Sc-03-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB
Sc-04-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB
Sc-05-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB
Sc-06-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB
Sc-07-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB
Sc-08-01.rgb	2023-01-05 17:37	SGI Image	2,360 KB
Sc-09-01.rgb	2023-01-05 17:37	SGI Image	2,360 KB
Sc-10-01.rgb	2023-01-05 17:37	SGI Image	2,023 KB

Main controller access console settings



DMX512 trigger channel description (a total of 8 channels are used, and the address code is set on the master controller)

channel number	Value range	Function Description
1	0~255	Total dimming, 0 is black, 255 is brightest.
2	0~255	Adjust the red color
3	0~255	Adjust the green color
4	0~255	Adjust the blue color
5	0~255	Adjust white color (valid only for RGBW lamps)
6	0~255	Select a program, 4 values correspond to a program ..0-3 for program 1 4-7 for program 2 8-11 for Program 3 12-15 for program 4 By analogy, a total of 64 programs can be supported
7	0~255	Play speed: 0 is the slowest, 1 to 255 speed is continuously adjustable
8	0~255	0 i s n o r m a l p l a y , 2 5 5 i s p a u s e

Documents / Resources

	GICO GC-6600 LED Universal Master Controller [pdf] User Guide GC-6600, GC-6600 LED Universal Master Controller, LED Universal Master Controller, Universal Master Controller, Master Controller

References

- User Manual