Contents

DMX512 Config Tool Software Operation Instruction

1.SOFTWARE FUNCTION

The main function structure of the software is shown as follows:

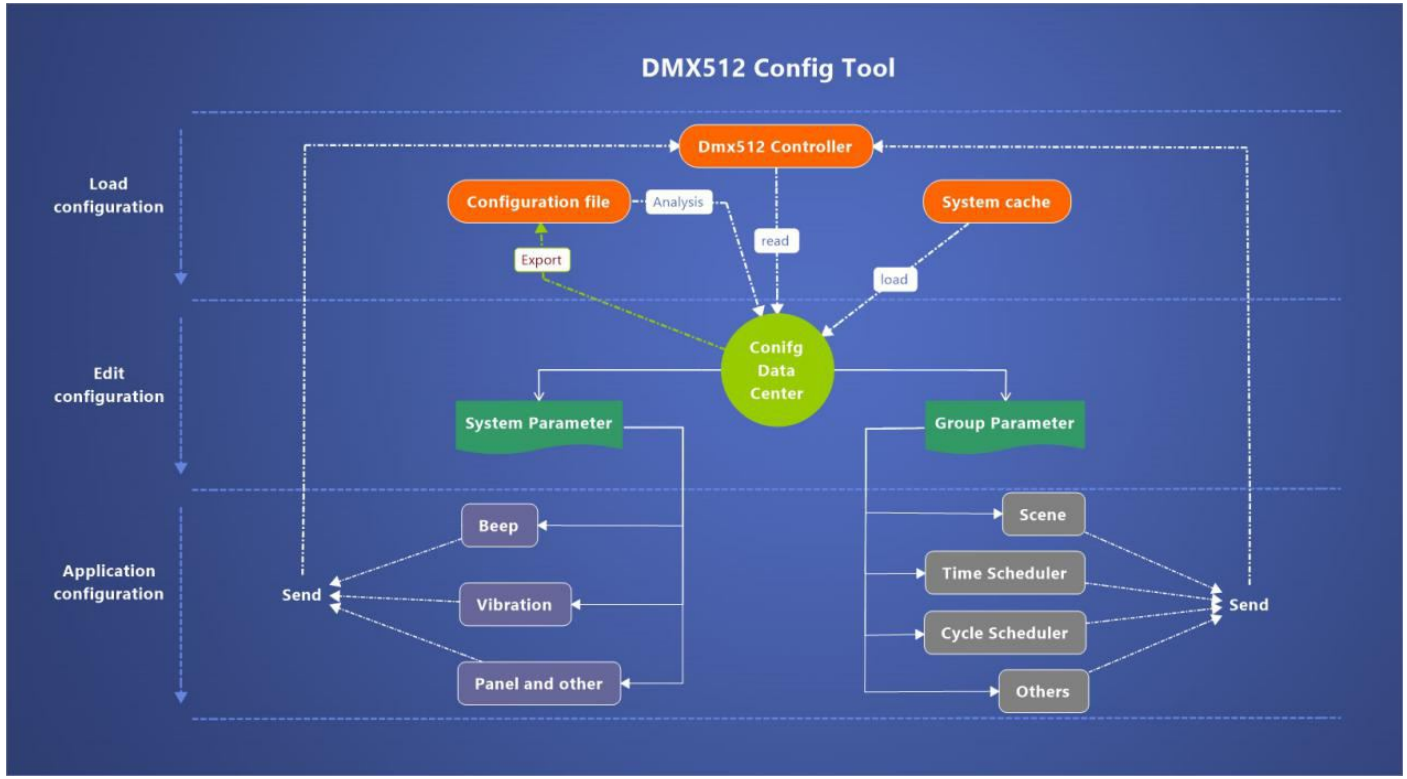


Figure 1: DC Tool Function Structure

1.1 Load Configuration Data:

For configuration data from different sources, specified loading mode is provided to support file import, DMX512 master controller read, system cache loading, etc.

1.2 Edit & Apply Configuration Data:

The software divides the configuration data into system parameter setting and group parameter setting. Users can modify any parameters and send them to the DMX512 controller to make changes effective, thus reaching their desired effect.

1.3 Precautions:

Only with opened serial port can the software read, write and perform other subsequent application operations on the DMX512 master controller.

Remark: The PC configuration software can operate the DMX512 control panel through two ports of DMX512 master controller.
1) The USB to COM of DMX512 master controller can operate the DMX512 control panel with a serial port baud rate of 115200;
2) The RS485 port of the DMX512 master controller can operate the DMX512 control panel with a serial port baud rate of 250000;

2 SOFTWARE USAGE INSTRUCTION

2.1 Function Home Page

After the software is successfully started, it goes to the home page, as shown below:

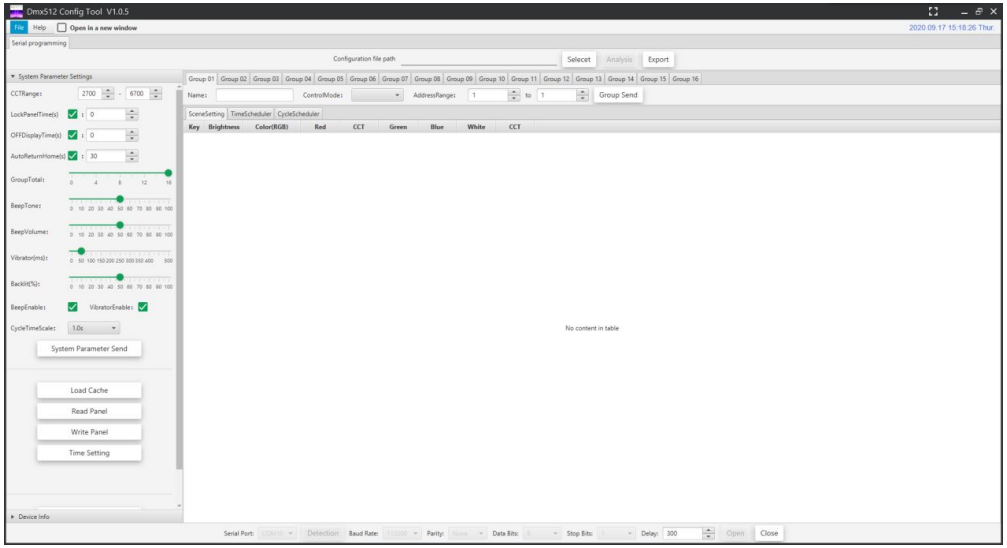


Figure 2: Home Page

Serial programming home page is laid out according to top, bottom, left and middle right directions:

1) Top home page can import and export configuration files;
2) Left home page contains system parameter setting and device information display area. The former mainly provides DMX512 reading, writing and other operation functions, while the latter displays the currently connected device version and relevant information of RTC battery voltage;
3) Bottom home page is the area connected and controlled by the PC serial port;
4) The middle right home page is the main area of group parameter setting, and different group parameters can be modified by switching tab.

Others:

1) Click Toolbar-> Help-> Topic to change home page UI;
2) Click Toolbar-> Help-> Language to change home page languages.

2.2 Operation Instruction

2.2.1 Serial Communication Port

Please ensure that the CH340 driver for USB to Serial Communication Port is installed. If not, please refer to the installation of the CH340 driver app to install it.

Any communication between the software and the DMX512 master controller device needs opened serial port for data interaction. At the bottom of the main window, select the serial port that needs to be connected to the DMX512 master controller device (when the serial port changes, clicking the Detection button is needed to manually scan and update the serial port list), and set other serial ports as the default. Click the Open button and wait for the serial port to respond. After successfully opening the serial port, the following prompt figure will appear:

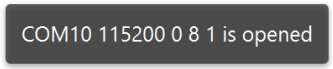


Figure 3: Prompt of Opened Serial Port

2.2.2 Configuration File Loading

Click the Select button at the top of the window, select the folder where the configuration file is located in the pop-up window, and then click the Select Folder button to confirm:

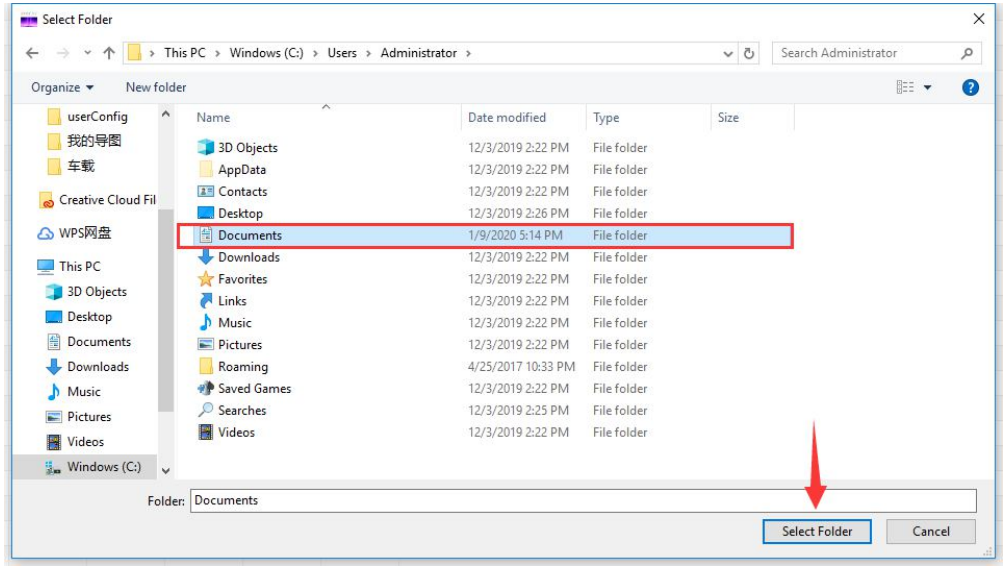


Figure 4: Select the Configuration File

After clicking the Analysis button, the software background immediately parses and verifies the configuration file under the selected path (ConfigScheduleTaskData.h, ConfigTouchCtrlData.h). If the contents of the configuration file are complete and correct, the software will interpret the read data and display them in the window (the process takes 1-3s).

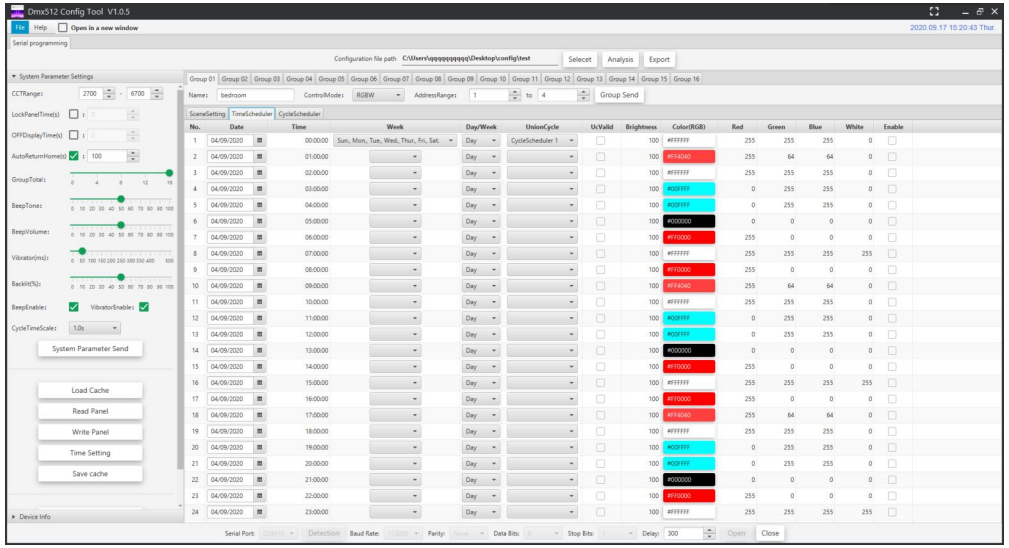


Figure 5: Data Loading Completed

2.2.3 System Cache Loading

This function button is Load Cache and only supports the operation of Save Cache that has been performed at least once before. After pressing the Load Cache button, the software will automatically import all configuration data from the last Save Cache time point.

2.2.4 DMX512 Read Panel

With the opened serial port, which is ready for communication, reading the data from the DMX512 master controller device can be achieved only with a simple click on the Read Panel button on the left side of the window, and the program will assign configuration parameter data to the DMX512 Read Panel step by step:

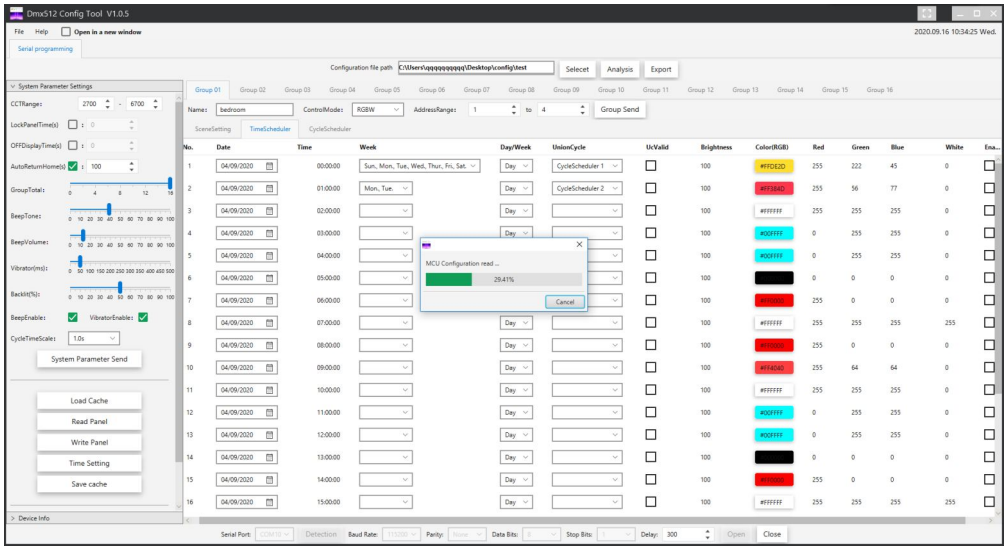


Figure 6: DMX512 Mater Controller Device Read Progress

After reading all the required data (100% progress), the background will display the verified and interpreted data in the window directly.

2.2.5 System Parameter Sending

In the setting area of system parameters, it should be noted that the setting range of CCT Range exerts a direct influence on the setting of group parameters. As long as the value is changed, the CCT attribute value under all group lists will be dynamically confined, that is, the value exceeding CCT Range will be automatically adjusted to the upper limit of CCT Range, and the value below it will be automatically adjusted to its lower limit, and all groups will be influenced.
CycleTimeScale mainly divides the time scale factors of StayTime and FadeTime of group cycle task, which directly affects the color temperature switching speed of LED lights.
Note: For the setting value of the time scale factor CycleTimeScale, please refer to the following table.

Item	Cycle Schedule Group Enable Total	Fade Time=0 Group Total	Single Scene Stay Time Average Min Data(ms)	Suggest Cycle Time Scale Min Data
1	1	1	140ms	x0.1
2	2	1	200ms	x0.2
3*	3	1	300ms	x0.2
4*	4	1	400ms	x0.2
5	5~6	1	500ms	x0.5
6*	7~8	1	600ms	x0.5
7*	9	1	900ms	x0.5
8	10~16	1	1000ms	x1.0

Remark: When the item is 3, 4, 6 or 7, within the maximum value range of Cycle Schedule Group Enable Total, and Fade Time=0 Group Total>1, the value of Single Scene Stay Time Average Min Data(ms) is slightly smaller than the corresponding reference value in the above table.

After adjusting several system parameters, click the System Parameter Send button to synchronize the system setting and can view the actual effect in real time.

2.2.6 Write Panel

Complete sending, which suggests that all parameters are sent to the DMX512 master controller device, can be regarded as the reverse operation of DMX512 Read Panel, and is also carried out step by step.

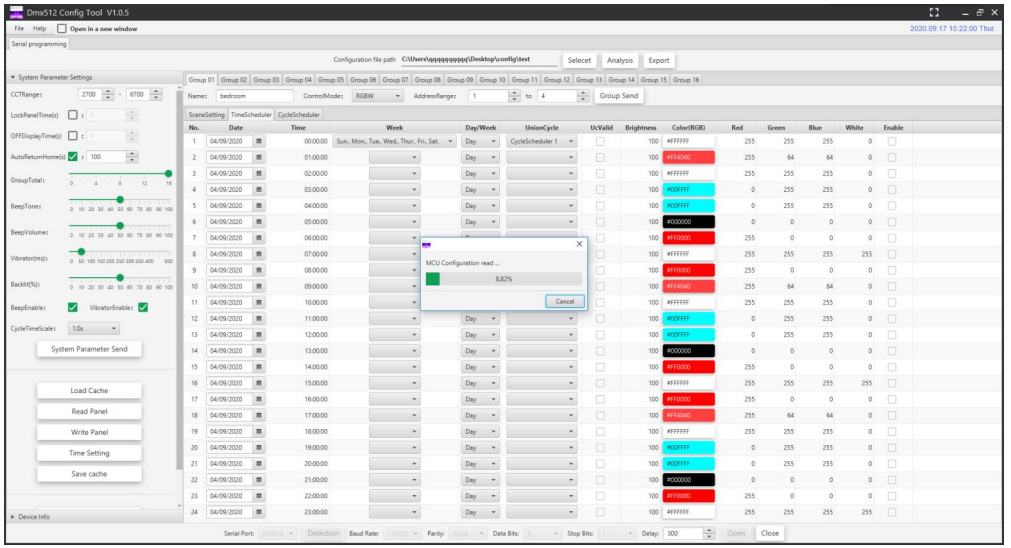


Figure 7: Data Sending Progress

Sending configuration parameters to the DMX512 master controller is more time-consuming than reading configuration parameters from it, because it compares and calculates configuration parameters one by one before returning confirmation information. The software will not proceed to the next step until it receives the confirmation information. Please wait patiently.

2.2.7 Time Setting

This operation synchronizes the time of the computer where the software is located to the DMX512 master controller device.

2.2.8 Save Cache

It refers to saving current configuration data to the system cache. Each use of this function will cover the configuration saved before updating, for system cache only, which is the loaded one that has been mentioned before.

2.2.9 Export

The software also supports the export of configuration files. Click the Export button on the upper right of the program window, select the folder path to be exported, and then click the Select Folder button to complete the export.

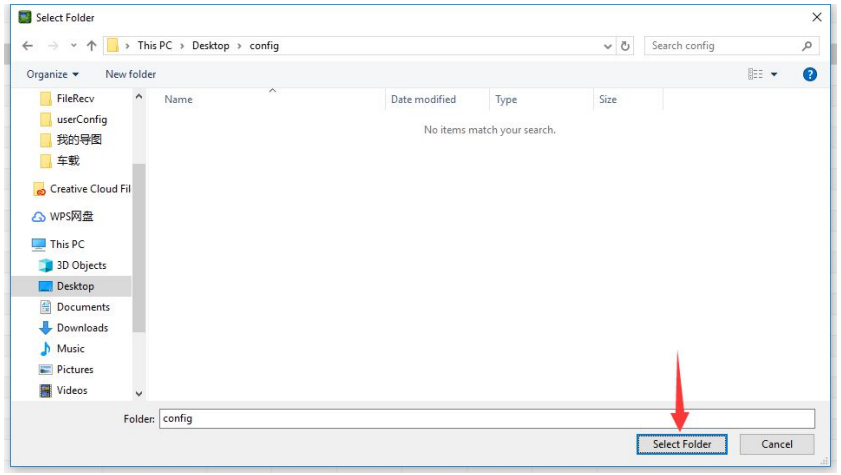


Figure 8: Export Configuration File

The exported configuration file can be regarded as a backup configuration. If needed, it can be operated on demand after reading through the configuration file loading function.

2.2.10 DMX512 Factory Data Reset

Each DMX512 master controller device comes with its own factory configuration. This function directly commands the DMX512 master controller device to reset the factory setting. Please use it with caution.

2.2.11 Group Parameter Edit & Preview

Group parameter configuration consist of group name, group control mode, group address range, SceneSetting, TimeScheduler and CycleScheduler.
The ControlMode under the group parameters directly affects the group address range rules (data packet header and footer), and the address ranges of each group must not intersect (no intersection).

1) DIM mode range span is the multiple of 1;

2) CCT mode range span is the multiple of 2;

3) RGB mode range span is the multiple of 3;

4) RGBW mode range span is the multiple of 4;

5) RGBCCT mode range span is the multiple of 5;

For example, if the starting address of RGBCCT mode is 4, the ending address is x, the multiple is y, and both x and y are greater than 0, they must satisfy the formula: (x-4)+1 = 5y.

The switching of ControlMode mode dynamically affects the SceneSetting, TimeScheduler and CycleScheduler lists, and the same columns in different lists are hidden or displayed depending on the mode.

There are many right-click functions in the group parameter list. The control mode, RGBW, is illustrated in detail here, as shown below:

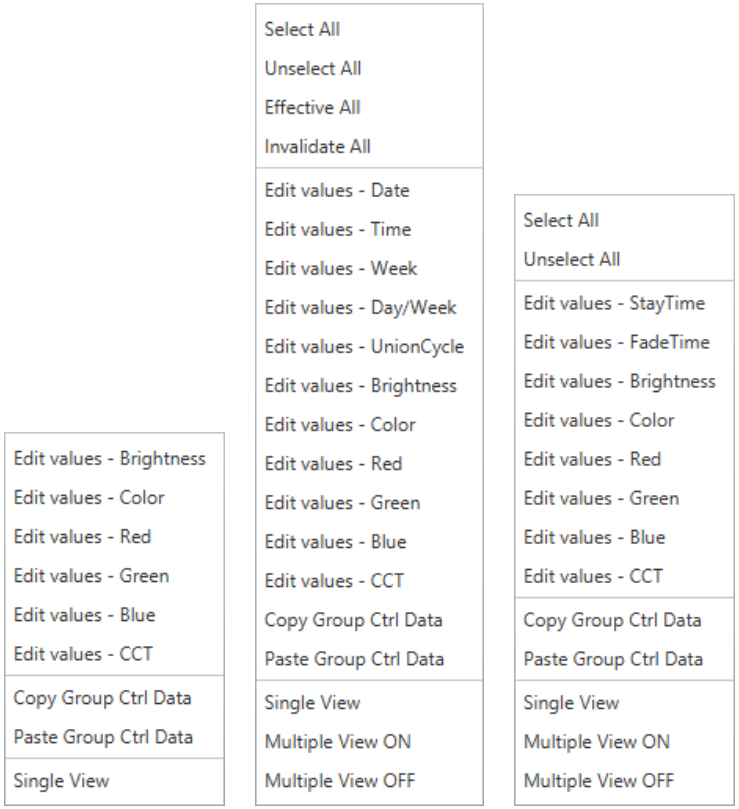


Figure 9: From Left to Right: Right-click Menu Functions of SceneSetting, TimeScheduler and CycleScheduler

It can be divided into 4 parts at most according to the dividing line from top to bottom. The right-click menu varies with ControlMode mode and list.

The first part is the select-all and unselect-all table columns with check boxes.

The second part is to uniformly modify the values of the specified columns in current table.

The third part is to copy the data from the three tables of current group to the system cache. Right click any table area in the group that needs to reference the copied data, and select Paste Group Ctrl Data in the pop-up menu to complete the 1:1 duplication. The duplication function only supports the operation among groups with same ControlMode mode.

The fourth part is SceneSetting, TimeScheduler and CycleScheduler preview function. SceneSetting only supports Singe View. For each preview of the configuration effect of the selected row, Multiple View ON previews the operation effect of the selected item in users' current list Enable option, while Multiple View OFF stops previewing.

Remark: In the CycleScheduler list, the actual time length of Stay Time and Fade Time needs to be associated with the Cycle TimeScale setting value.

2.2.12 Group Parameter Sending

Send the configuration to the DMX512 master controller device in groups, and each group is equipped with a Group Send button. After adjusting the specified group parameters, click this button to start sending group parameters, and then wait for the response:

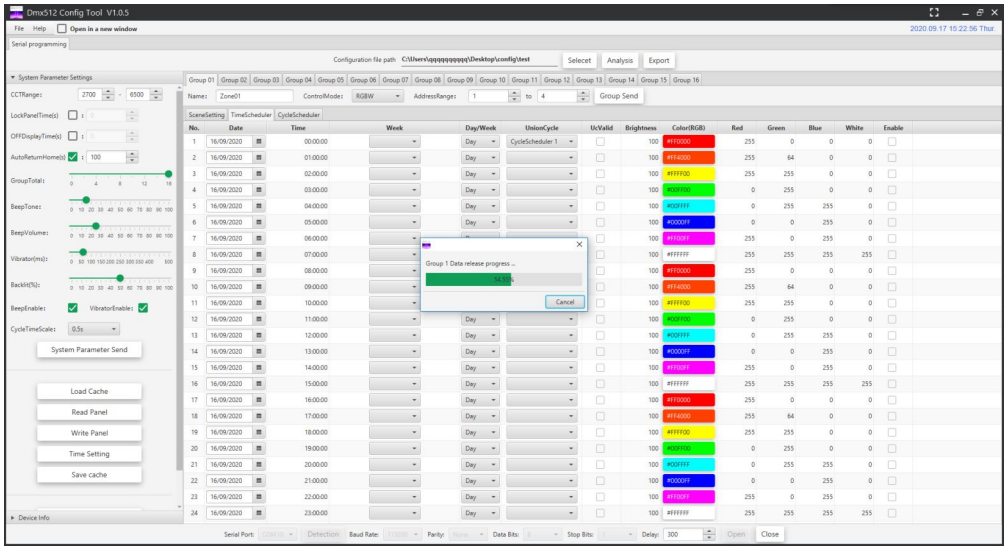


Figure 10: Group Parameter Sending Progress

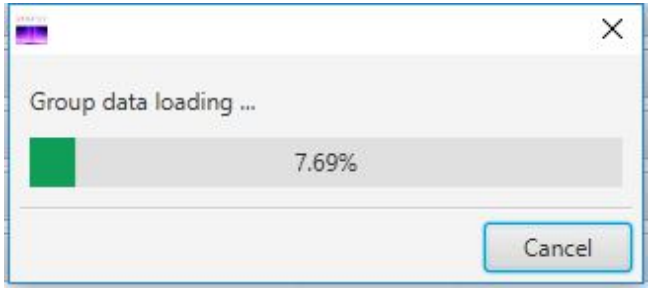
The 100% sending progress indicates that the group 2 configuration is successfully sent.

2.2.13 Group Data Lazy Loading

The new configuration data obtained by reading the configuration file, loading the system cache or reading the configuration by the device needs to render the window data. To enhance users' experience, current version extensively optimizes the data loading to make the loading more balanced, and adopts the following methods to load synchronously: Intermittent balanced load: Trigger after obtaining new data. After splitting the data, load the group data of the window stay area first, then batch and keep reasonable time interval to render other group data, and then render other groups of data in batches within a reasonable time interval to reduce GUI thread pressure, thus making the program response faster and smoother.

Tap load: Trigger after clicking the group tap. This loading method only loads current group data and only loads it once, unless new configuration data is obtained and current group tab is clicked again.

The above two methods can be operated both independently and simultaneously.



Note: When users send data, if the intermittent loading is not completed in the background, the program will not respond only after the loading is completed, as shown in Fig. 13; otherwise, it will respond immediately.

Figure 13: Group Data Loading

2.2.14 RGB Color Option Under Control Mode

Under the group mode of RGB/RGBW/RGBCCT, the user opens the palette, which contains the predefined color set and the "Custom Color" link pointing to the "Custom Color" dialog window, by clicking the color label in the cell corresponding to the Color column. The palette supports navigation by the up, down, left, and right keys, and custom color set cannot be reloaded when the app restarts, unless it is saved in the app. Each color selected in the palette or custom color area is displayed on the color indicator of the color picker. And the color picker label presents corresponding hex Web color value.

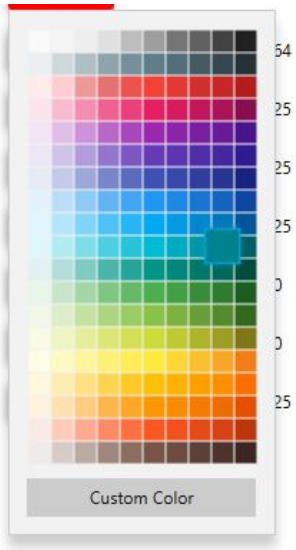


Figure 11: Palette

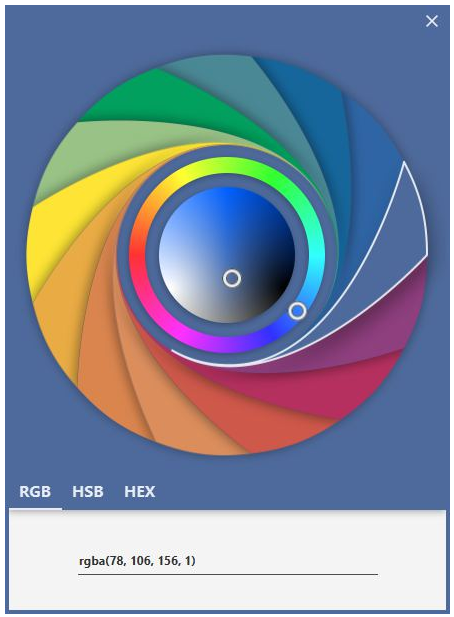


Figure 12: Custom Color

The "Custom Color" dialog window is a modal window, which can be opened by clicking the corresponding link in the palette. After opening the "Custom Color" window, the color value displayed in the color indicator of current color picker is displayed. Users can define a new color by moving the cursor over the color area or sector color bar, as shown in Fig. 12.

Another method for defining new colors is to explicitly input HSB (hue, saturation and brightness) value or RGB (red, green and blue) value or HEX (Web) value in corresponding field. Fig. 24-6 shows three tabs for custom color settings.

After setting the custom color value, press the Enter key to confirm.

3 INSTALLATION PROCESS & PRECAUTIONS

3.1 Installation Steps

• Run installation file:
• Select installation language:

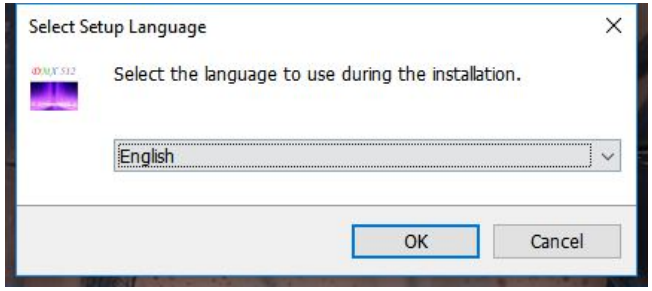


Figure 14: Installation Language

• Select installation path:

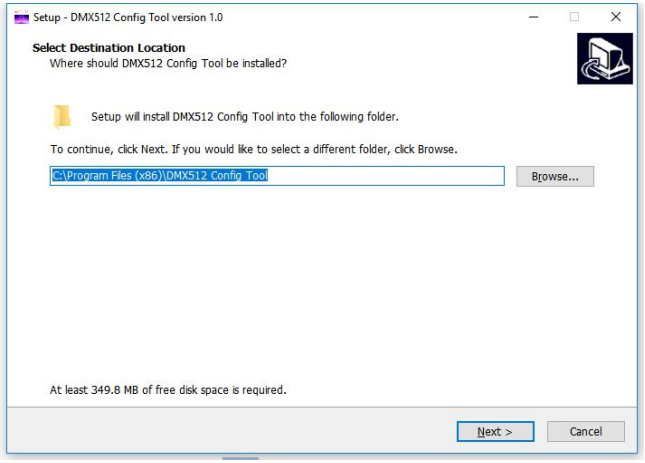


Figure 15: Installation Path

• Create desktop shortcut:

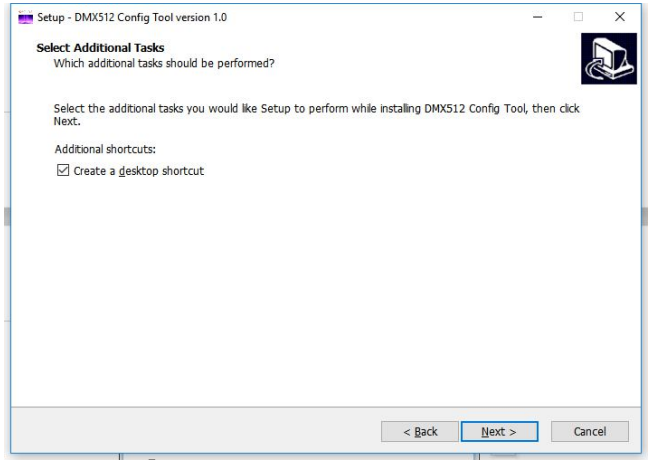


Figure 16: Create Shortcut

• Start to install:

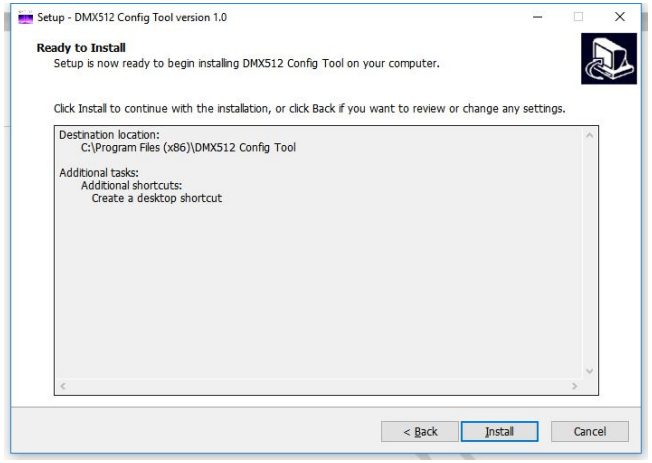


Figure 17: Start to Install

• Installation progress:

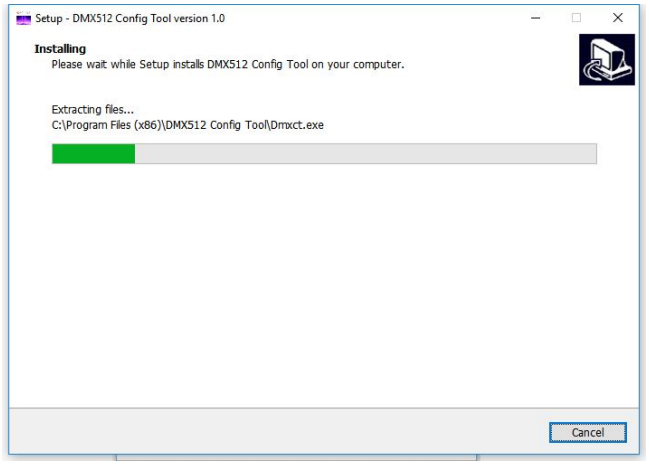


Figure 18: Installation Progress

• Complete the installation (uncheck Launch DMX512 Config Tool)

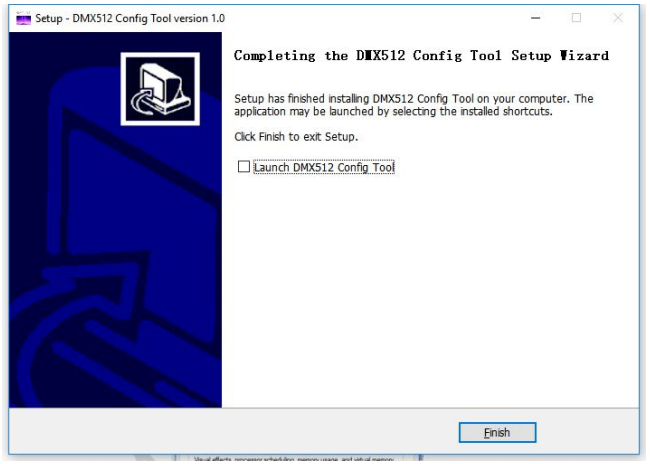


Figure 19: Complete the Installation

3.2 Precautions:

1) Please follow the installation steps, otherwise the software cannot start normally;
2) This software is installed on disk C by default. If the installation path is not changed, start the program as an administrator. Specific operations are as follows:

Right click the desktop icon 

to view the property, switch to the Compatibility option, and select Run this program as an administrator.
Click OK to complete the setting.
3) Be sure to uninstall this software before reinstalling.

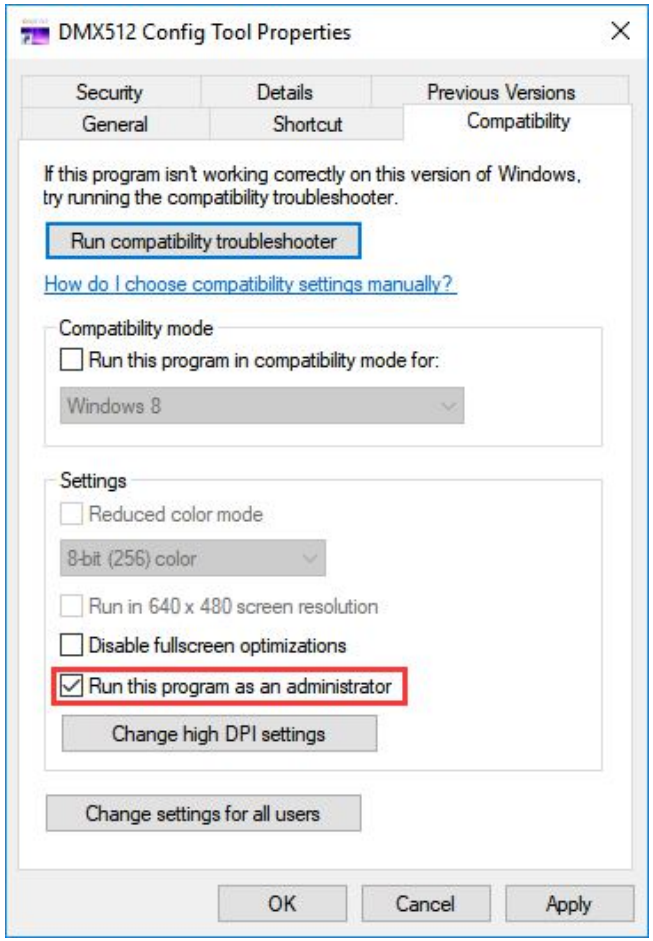


Figure 20: Start the Program as an Administrator

4 INSTALLATION OF CH340 DRIVER

4.1 Installation Steps

1) Plug in the USB serial port cable and double click the file “CH341SER.EXE” to install it.

Figure 21: Double Click the File “CH341SER.EXE”

2) If prompted for installation failure, reinstall it after uninstalling.

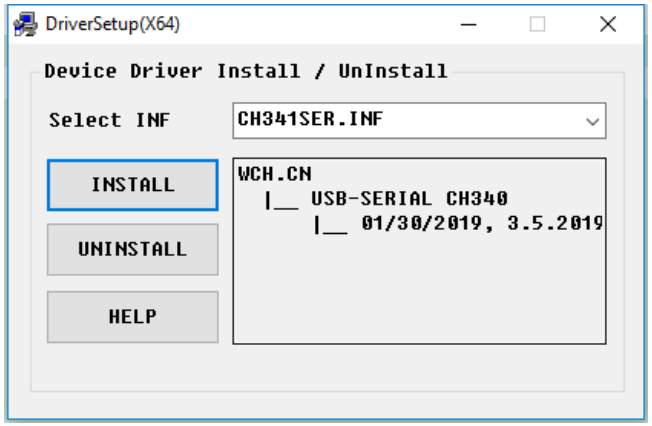


Figure 22: Driver Installation

3) Click My Computer-Management-Device Manager to check if the installation is successful.

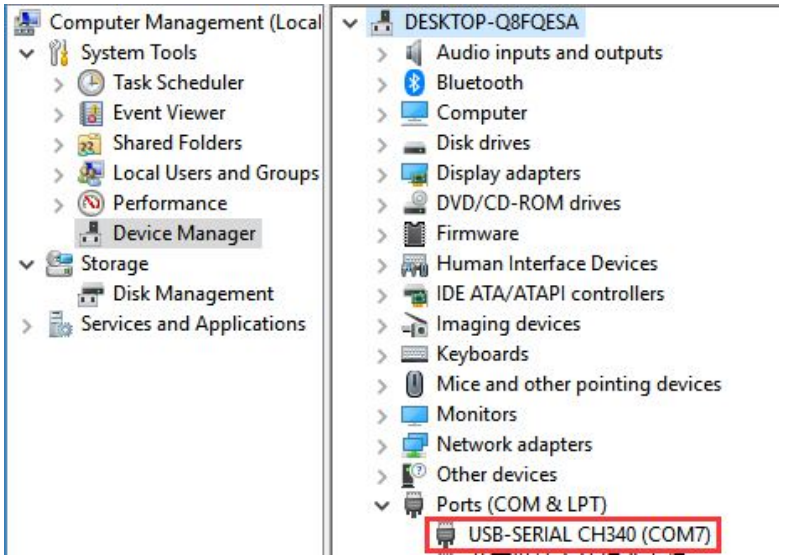


Figure 23: Successful Driver Installation